WILD Links/Science

Activity Title: WHAT'S WILD — Activity Guide Page #: 2

Objective(s): Students will: 1) distinguish between wildlife and domesticated animals; and 2) recognize that wildlife occurs in a variety of forms.

Overview: Students find and classify pictures of wild and domesticated animals, and construct collages.

Subject Area(s): Science, Language Arts, Art — Grade Level(s): K-3

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology A. Classifying Life Forms Students will understand that there are similarities within the diversity of all living things.	Elementary Grades Pre-K-2 2. Describe characteristics of different living things.	<u>Procedure #2</u> Talk with the students about wild animals and domesticated animals before they get started with their classifying.	
	Elementary Grades 3-4 2. Design and describe a classification system for organisms.	<u>Procedure #2</u> Once the students have assembled a collection for animals pictures, it is time to classify them.	
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades Pre-K-2 6. Use objects and pictures to represent scientific and technological ideas.	<u>Procedure #3</u> Ask the students to make two collages – one of wildlife and one of domesticated animals.	

Activity Title: ANIMAL CHARADES — Activity Guide Page #: 4

Objective(s): Students will be able to define wildlife, as well as be able to distinguish between domesticated and non-domesticated animals.

Overview: Students use "charades" to distinguish between wild and domesticated animals.

Subject Area(s): Language Arts, Science, Drama — Grade Level(s): 4-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology A. Classifying Life Forms Students will understand that there are similarities within the diversity of all living things.	Elementary Grades 3-4 1. Group the same organisms in different ways using different characteristics.	<u>Evaluation #2</u> Explain, using examples, how a species can be considered "wild" and domesticated."	• students must look at situations where an animal could be considered wild or domesticated (i.e., ferret vs. tame horses)

WILD Links/Science

Activity Title: BEARLY BORN — Activity Guide Page #: 6

Objective(s): Students will be able to identify similar survival needs of black bears and human babies.

Overview: Students illustrate, compute, and graph differences between people and black bears at various stages of maturity.

Subject Area(s): Science, Math — Grade Level(s): 4-7

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology A. Classifying Life Forms Students will understand that there are similarities within the diversity of all living things.	Elementary Grades 3-4 4. Compare and contrast the life cycles, behavior, and structure of different organisms.	Procedure #5 In discussion, ask the students to comment on similarities and differences between bears and people.	
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades 3-4 4. Make and/or use sketches, tables, graphs, physical representations, and manipulatives to explain procedures and ideas.	Procedure #3 Ask the students to: a) graph both sets of data, b) draw a picture of the bear at each age, and c) draw a picture of themselves at each age.	

Activity Title: ANTS ON A TWIG — Activity Guide Page #: 10

Objective(s): Students will: 1) identify similarities and differences in basic needs of ants and humans; and 2) generalize that humans and wildlife have similar basic needs.

Overview: Students go outside to observe and demonstrate ant behavior.

Subject Area(s): Science — Grade Level(s): 3-9

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Elementary Grades 3-4 2. Conduct scientific investigations: make observations, collect and analyze data, and do experiments.	Evaluation #1 Describe three ant behaviors you have observed.	

Activity Title: COLOR CRAZY			Activity Guide Page #: 12
Objective(s): Students will be able to generalize that wildlife occurs in a wide variety of colors.			
Overview: Students create representations of colorful wild animals.			
Subject Area(s):Science, Language Arts, Art			Grade Level(s): K-6
Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology D. Continuity and Change Students will understand the basis for all life and that all living things change over time.	Elementary Grades Pre-K-2 2. Identify characteristics that help organisms live in their environment.	Procedure #2 Have the students describe how the coloring on the animal they created would help it to survive. Procedure #6 Ask the students what they have learned about wild animals. Encourage the generalization that wild animals occur in a wide variety of colors and that animals' colors and markings help them survive.	• give each child a chance to talk about their creation
	Elementary Grades 3-4 3. Explain how adaptations, in response to change over time, may increase a species' chances of survival.	Procedures #2 and #6	• same as above
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades Pre-K-2 6. Use objects and pictures to represent scientific and technological ideas.	Procedure #2 Ask students to draw, paint, or construct a colorful creature. Have the students describe how the coloring on the animal they created would help it to survive.	
	Elementary Grades 3-4 4. Make and/or use sketches, tables, graphs, physical representations, and manipulatives to explain procedures and ideas.	Procedure #2	

WILD Links/Science

Activity Title: GRASSHOPPER GRAVITY!			Activity Guide Page #: 16
Objective(s): Students will: 1) describe the relationship between structure and function; 2) generalize that wildlife ranges from small to large and occurs in a variety of forms; and 3) recognizes that people have power to affect other animals and with that power comes responsibility.			
Overview: Students observe, handle and describe live grasshoppers and crickets.			
Subject Area(s): Science, Language Arts, Social Studies			Grade Level(s): 2-7
Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology A. Classifying Life Forms Students will understand that there are similarities within the diversity of all living things.	Elementary Grades Pre-K-2 2. Describe characteristics of different living things.	Grasshoppers! Questionnaire, pg. 17, *Project Wild*.	• each student should have specific questions/ observations to make – geared toward the students' abilities
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades Pre-K-2 3. Make observations.	Procedure #1 Tell the students they are going to be like scientists who carefully observe wildlife with as little impact as possible on the animals.	

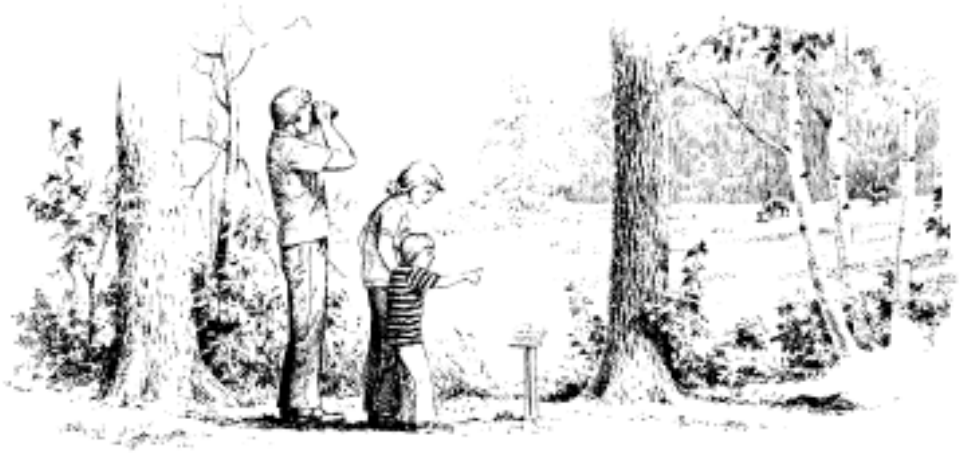
Activity Title: WILDLIFE IS EVERYWHERE! Activity Guide Page #: 20

Objective(s): Students will: 1) state that humans and wildlife share environments; and 2) generalize that wildlife is present in areas all over the earth.

Overview: Students search their environment for evidence of wildlife.

Subject Area(s): Science, Language Arts Grade Level(s): K-3

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Elementary Grades Pre-K-2 4. Describe different ecological systems on earth.	Procedure #3 Ask the children to guess whether they think different kinds of animals are found all over the Earth – in the deserts, oceans, mountains and cities. Encourage the students to make the generalization that wildlife is present all over the Earth.	
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades Pre-K-2 3. Make observations.	Procedure #2 The students can explore the trail in a "follow the leader" fashion. The students should remain quiet, observing to themselves.	
	Elementary Grades 3-4 3. Draw conclusions about observations.	Evaluation #2 Name the things you saw, heard, or smelled which showed you that wildlife lives in the classroom and on the school grounds.	



Activity Title: MICROTREK TREASURE HUNT — Activity Guide Page #: 22

Objective(s): Students will: 1) state that humans and wildlife share environments; 2) demonstrate that humans do not have exclusive use of environments; and 3) generalize that wildlife can be all around us even if we do not actually see or hear it.

Overview: Students go outside on a "treasure hunt" for wildlife.

Subject Area(s): Science, Language Arts, Social Studies — Grade Level(s): 4-6

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Elementary Grades 3-4 1. Make accurate observations using appropriate tools and units of measure.	Procedure #2 Provide each group with a small hand lens, small digging tool, pencil and instruction sheet.	• instruction sheet must specify the observations students are to make
	Middle Grades 5-8 1. Make accurate observations using appropriate tools and units of measure.	Procedure #2	• same as above
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades 3-4 4. Use various types of evidence (e.g., logical, quantitative) to support a claim.	Evaluation #2 Define “evidence.” Give examples of how evidence can be used to interpret environments.	

Activity Title: THE BEAUTIFUL BASICS — Activity Guide Page #: 30

Objective(s): Students will identify five basic survival needs shared by people and all other animals, including pets and wildlife.

Overview: Students list and organize needs of people, pets, and wildlife.

Subject Area(s): Science, Language Arts, Health — Grade Level(s): 2

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Elementary Grades Pre-K-2 1. Identify ways that organisms depend upon their environment.	Evaluation #1 List at least four things plants and animals need for survival.	
Science and Technology C. Cells Students will understand that cells are the basic units of life.	Elementary Grades Pre-K-2 2. Demonstrate an understanding that plants and animals need food, water, and gases to survive.	Procedure #2 See if students can narrow down the lists and come up with the essential survival needs for people, pets and wildlife.	
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades Pre-K-2 4. Participate in brainstorming activities.	Procedure #1 List the students ideas in a column, under the word, "people." Do the same for pets and wildlife.	

Activity Title: EVERYBODY NEEDS A HOME			Activity Guide Page #: 32
Objective(s): Students will be able to generalize that people and other animals share a basic need to have a home.			
Overview: Students draw pictures of homes and compare their needs with those of other animals.			
Subject Area(s): Science, Language Arts, Art			Grade Level(s): K-3
Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Elementary Grades Pre-K-2 1. Identify ways that organisms depend upon their environment.	Evaluation #2 Draw a picture of a suitable habitat for an animal. Describe how the habitat meets the animal's needs for survival.	
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades Pre-K-2 6. Use objects and pictures to represent scientific and technological ideas.	Procedure #2 Once the drawings are finished, have a discussion with the students about what they drew. Ask the students to point out the things they need to live that they included in their drawings.	

Everybody Needs A Home
by Rex Turner

A group of four sophomore biology students from Nokomis High School volunteered to visit a first grade class at the Palmyra Consolidated School to help with this activity. Each researched a specific wild animal and its particular home/habitat to share with the first graders. The high school students were fortunate to have full mounts of each animal, produced by the High School taxidermy program. The presence of both the high schoolers and the mounts really heightened the interest of the elementary students, showing them the variety of adaptations that wildlife exhibit in order to survive within their habitats. Nokomis High School strongly promotes service learning as a valuable component of our students' educational experience

Activity Title: HABITAT LAP SIT — Activity Guide Page #: 34

Objective(s): Students will: 1) identify the components of habitat; 2) recognize that humans and other animals depend on habitat; and 3) interpret the significance of loss or change of habitat in terms of people and wildlife.

Overview: Students physically form an interconnected circle to demonstrate components of habitat.

Subject Area(s): Science, Physical Education — Grade Level(s): 4-9

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Middle Grades 5-8 2. Analyze how the finite resources in an ecosystem limit the types and populations of organisms within it.	Evaluation #2 Explain how the arrangement of food, water, shelter and space is important to humans and other animals.	

Activity Title: HABITRACKS — Activity Guide Page #: 36

Objective(s): Students will: 1) identify the basic components of habitat as food, water, shelter, and space in a suitable arrangement; and 2) generalize that these components of habitat are needed by all animals -- including people and wildlife.

Overview: Students identify the components of habitat by using a map and exploring their school grounds.

Subject Area(s): Science, Language Arts, Social Studies — Grade Level(s): 2-5

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Elementary Grades Pre-K-2 1. Identify ways that organisms depend upon their environment.	Evaluation Draw a picture of an animal in a suitable habitat. Identify and describe what the animal needs to survive, and show where and how its needs are met in the habitat.	

Activity Title: WHAT'S THAT, HABITAT? Activity Guide Page #: 38

Objective(s): Students will: 1) identify their own basic needs for food, water, shelter, and space in a suitable arrangement and 2) generalize that wildlife and other animals have similar basic needs.

Overview: Students draw pictures of people's and animal's homes, comparing basic needs.

Subject Area(s): Science, Language Arts, Social Studies Grade Level(s): 2-3

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Elementary Grades Pre-K-2 1. Identify ways that organisms depend upon their environment.	Procedure #6 Tell the students that when food, water, shelter and space go together in a special way so that animals – including people – can live, we call that place a habitat.	
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades Pre-K-2 6. Use objects and pictures to represent scientific and technological ideas.	Procedure #10 Ask the students to talk about their drawings, pointing out the habitat components they have included.	
	Elementary Grades 3-4 4. Make and/or use sketches, tables, graphs, physical representations, and manipulatives to explain procedures and ideas.	Procedure #10	

Activity Title: HABITAT RUMMY — Activity Guide Page #: 40

Objective(s): Students will: 1) identify components of habitat as food, water, shelter, and space in a suitable arrangement; and 2) apply knowledge of these components to habitat requirements of various species of animals.

Overview: Students make cards and play a card game.

Subject Area(s): Science — Grade Level(s): 4-7

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Elementary Grades 3-4 4. Investigate the connection between major living and non-living components of a local ecosystem.	Evaluation #1 Identify habitat needs (what kinds of food, water shelter, and space and in what arrangement) for any five wild animals.	• have each student focus on the specific needs of each animals within their given habitat

Activity Title: MY KINGDOM FOR A SHELTER — Activity Guide Page #: 46

Objective(s): Students will be able to identify and describe the materials and techniques used by at least one wild animal to construct its shelter.

Overview: Students create replicas of wildlife shelter.

Subject Area(s): Science, Art — Grade Level(s): 5-9

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Elementary Grades 3-4 4. Investigate the connection between major living and nonliving components of a local ecosystem.	Procedure #5 Compare similarities and differences in the shelters and kinds of habitats in which the animals live.	• students should understand that various organisms create shelter in different ways depending upon the environment in which they live
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades 3-4 4. Make and/or use sketches, tables, graphs, physical representations, and manipulatives to explain procedures and ideas.	Procedure #4 Build facsimiles or models of each animal's shelter. If possible, build these to scale. If not, indicate the difference.	
	Middle Grades 5-8 4. Make and use scale drawings, maps, and three-dimensional models to represent real objects, find locations, and describe relationships.	Procedure #4	

Activity Title: WHAT'S FOR DINNER? Activity Guide Page #: 48

Objective(s): Students will generalize that all animals, including people, depend on plants as a food source, either directly or indirectly.

Overview: Students list and analyze sources of food.

Subject Area(s): Science, Language Arts, Health Grade Level(s): 3-7

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Elementary Grades Pre-K-2 2. Describe how almost all animals' food can be traced back to plants.	Procedure #3 All animals, including people and wildlife, depend upon plants for food.	• students may need guidance/support in making this connection, be sure to adapt for ability levels
	Elementary Grades 3-4 1. Describe a food web and the relationships within a given ecosystem.	Evaluation #1 Using the organisms listed below, construct at least three food chains; people, rabbits, grass, lettuce, mountain lions, robins, earthworms, hawks, mice, insects, wheat, cows, corn, pigs, deer, acorns.	
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades Pre-K-2 5. Use various forms of simple logic.	Procedure #2 In the classroom, ask the students to work alone or in groups to analyze where their food comes from.	
	Elementary Grades 3-4 6. Practice and apply simple logic, intuitive thinking, and brainstorming.	Procedure #2	• logical thinking should lead students to generalize that all food sources can be traced back to plants.

Activity Title: LITTER WE KNOW			Activity Guide Page #: 50
Objective(s): Student will: 1) Identify and evaluate ways that litter pollution can endanger wildlife; and 2) propose ways they can help eliminate these dangers.			
Overview: Students collect and evaluate litter, making collages.			
Subject Area(s): Social Studies, Language Art, Science, Art, Math			Grade Level(s): 4-6
Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Middle Grades 5-8 4. Describe an individual's biological and other impacts on an environmental system.	Evaluations #1 and #2 Name four ways that litter can harm wildlife. List three things you can do to eliminate these dangers.	

Activity Title: TRACKS! Activity Guide Page #: 52

Objective(s): Students identify common animal tracks.

Overview: Students make plaster casts of animal tracks.

Subject Area(s): Science, Art Grade Level(s): 4-7

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Elementary Grades 3-4 1. Make accurate observations using appropriate tools and units of measure.	Procedure #2 Divide into small groups to find tracks. Prepare the students in advance to assist them in looking carefully and responsibly.	• Make sure there are enough of the appropriate tools used in steps 7-10
	Middle Grades 5-8 1. Make accurate observations using appropriate tools and units of measure.	Procedure #2	• same as above

Activity Title: HABITREKKING Activity Guide Page #: 56

Objective(s): Students will: 1) summarize evidence about the nature of habitats; and 2) generalize from evidence that people and wildlife have similar basic needs, share environments and are subject to the same or similar environmental problems.

Overview: Students go outside to conduct an investigation requiring observation, interpretation and data-gathering skills, and then prepare and present their findings.

Subject Area(s): Science, Language Arts, Social Studies Grade Level(s): 7-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Middle Grades 5-8 2. Analyze how the finite resources in an ecosystem limit the types and populations of organisms within it.	Procedure #3 Group #1, Evidence List #1, All living things are affected by their environment.	
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Middle Grades 5-8 1. Make accurate observations using appropriate tools and units of measure.	Procedure #2 Each team should be equipped with observation tools.	
	Secondary Grades 1. Make accurate observations using appropriate tools and units of measure.	Procedure #2	
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Middle Grades 5-8 6. Support reasoning by using a variety of evidence.	Procedure #4 They simply have to have reasonable explanations for what they select as evidence. They may observe and thy may infer. Both are sources of evidence.	

Activity Title: SPIDER WEB GEOMETRY — Activity Guide Page #: 58

Objective(s): Students will: 1) recognize spiders as wildlife; and 2) generalize that people and wildlife share environments.

Overview: Students research the spider of their choice, and then construct a replica of the spider's web, applying principles of geometry.

Subject Area(s): Math, Science, Language Arts, Art — Grade Level(s):10-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Middle Grades 5-8 4. Make and use scale drawings, maps, and three-dimensional models to represent real objects, find locations, and describe relationships.	Procedure #4 Next the students should make the web. Thread and glue can be used. The webs should be constructed to scale, and made as realistic as possible.	

Activity Title: WE'RE IN THIS TOGETHER! — Activity Guide Page #: 60

Objective(s): Students will: 1) identify environmental problems of concern to both people and wildlife; and 2) generalize that people, domesticated animals and wildlife are subject to similar environmental problems.

Overview: Students interview people to identify environmental problems, and then analyze, interpret and summarize their findings.

Subject Area(s): Social Studies, Environmental Problems, English, Science — Grade Level(s): 9-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Secondary Grades 3. Develop generalizations based on observations.	Procedure #5 This categorization is useful as an indicator that people, domesticated animals and wildlife share the same needs, and are subject to similar problems in environmental quality.	• observations are based on answers obtained through the interviews

Activity Title: LEARNING TO LOOK, LOOKING TO SEE Activity Guide Page #: 62

Objective(s): Students will: 1) describe differences seen in their environment as a result of casual and entailed observation; and 2) give reasons for the importance for looking closely at any environment.

Overview: Students list what they remember seeing in a familiar environment, check their accuracy, and discuss the results, and then apply their experiences and new skills to an unfamiliar outdoor setting.

Subject Area(s): Language Arts, Science, Social Studies, Art Grade Level(s): K-8

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Elementary Grades Pre-K-2 1. Make accurate observations using appropriate tools and units of measure.	Procedure #2 Have the students go outdoors and pick one spot near a tree, a fence, a brook, a field, etc. Each student should find a spot alone, at least 50 feet from the closest human neighbor. Allow 15 minutes for this solo, or approximately five minutes for younger students. The students should look in a broad sense of the word – seeing, touching, listening and smelling. Fifteen minutes will provide time for an initial spurt of observations, a plateau and another spurt as they begin to realize how much they missed the first time around. (Younger children need only record in their minds, no need to write)	• students should make detailed observations using their senses as "appropriate" tools; it can be modified to be used with a variety of age groups
	Elementary Grades 3-4 1. Make accurate observations using appropriate tools and units of measure.	Procedure #2	
	Middle Grades 5-8 1. Make accurate observations using appropriate tools and units of measure.	Procedure #2	
	Secondary Grades 1. Make accurate observations using appropriate tools and units of measure.	Procedure #2	

Activity Title: WILD WORDS ... A JOURNAL-MAKING ACTIVITY — Activity Guide Page #: 66

Objective(s): Students will: be able to observe and describe their surroundings, particularly in out-of-door settings, in a variety of ways.

Overview: Students go into an outdoor setting to make and write in journals they design.

Subject Area(s): Language Arts, Science — Grade Level(s): 4-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Secondary Grades 2. Use journals and self-assessment to describe and analyze scientific and technological experiences and to reflect on problem-solving processes.	Procedure #6 Discuss the value of journal. In addition to recording impressions, feelings and observations, a journal can become a log of important data to be referred to later.	

Activity Title: ECO-ENRICHERS — Activity Guide Page #: 76

Objective(s): Students will: 1) evaluate the importance of plant and animal matter as contributors to soil; and 2) recognize that wildlife in many forms contributes to the diversity and balance of ecological systems.

Overview: Students experiment with soil and earthworms.

Subject Area(s): Science — Grade Level(s): 6-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology F. The Earth Students will gain knowledge about the earth and the processes that change it.	Middle Grades 5-8 2. Describe how soils are formed and why soils differ from one place to another.	Procedure #3 After the soil tests have been completed and recorded, it is time to see what contributions at least one form of wildlife can make to the richness of soil.	• PARTIAL ALIGNMENT: formation of soil not covered
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Middle Grades 5-8 2. Design and conduct scientific investigations which include controlled experiments and systematic observations.	Procedure #5 Ask students to hypothesize the results expected after three weeks of experimentation. Have them write down their hypothesis to compare with their findings.	

Activity Title: SEED NEED — Activity Guide Page #: 78

Objective(s): Students will: 1) explain how seeds are carried by animals; and 2) evaluate the importance of wildlife as contributors to ecological systems based on this example of seed dispersal.

Overview: Students gather seeds by going outside and wearing socks over their shoes.

Subject Area(s): Science, Math, Social Studies — Grade Level(s): 5-6

Standard	Performance Indicators (by grade clusters)	Evidence of alignment (text from activity description)	Notes to assure high alignment for every student
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Elementary Grades 3-4 4. Investigate the connection between major living and nonliving components of a local ecosystem.	Procedure #5 Seeds may stick to an animal's fur in one location, and fall off in another. Discuss why such a process is an important one. Evaluate the consequences.	• PARTIAL ALIGNMENT

Activity Title: ENVIRONMENTAL BAROMETER — Activity Guide Page #: 80

Objective(s): Students will: 1) observe and count wildlife in an area; 2) discuss why the wildlife is or is not present; and 3) consider ways in which the presence of wildlife can be seen as an indicator of environmental quality.

Overview: Students go outside to observe and count or estimate wildlife in an area; do the same in another setting to compare findings; and -- optionally -- make a school "environmental barometer."

Subject Area(s): Science, Math, Social Studies — Grade Level(s): 3-5

Standard	Performance Indicators (by grade clusters)	Evidence of alignment (text from activity description)	Notes to assure high alignment for every student
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades 3-4 3. Draw conclusions about observations.	Procedure #5 Compare the information from the two charts. Was there any difference in the two settings? Why or why not? Which environment seemed to have the most different kinds of wildlife? Where were there the most of any one kind of wildlife, like the most birds? . . .	• student observations are used to create the two charts

Activity Title: MAKE A COAT! Activity Guide Page #: 82

Objective(s): Students will: 1) identify that some historical and present day sources of clothing are plants and animals; 2) collect and analyze data to infer the sources of most materials used in clothing today; and 3) distinguish between some examples of renewable and non-renewable natural resources.

Overview: Students make replicas of coats using different materials and representing varying historical periods.

Subject Area(s): Social Studies, Art, Language Arts, Home Economics, Math Grade Level(s): K-6

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Elementary Grades 3-4 1. Explore how cultures have found different technological solutions to deal with similar needs or problems (e.g., construction, clothing, agricultural tools and methods).	Procedure #4 Have a fashion show, or display the coats in the classroom. Ask the students to identify their coats, indicating the time period and place represented and materials used.	

Activity Title: WILD EDIBLE PLANTS — Activity Guide Page #: 90

Objective(s): Students will: 1) identify at least one native edible plant; and 2) describe the relationship between wild plants and contemporary cultivated plants; that is, that all cultivated plants originally developed from a wild source.

Overview: Students create a local seasonal calendar identifying native edible plants and their uses.

Subject Area(s): Social Studies, Science, Environmental Problems, Language Arts, Art, Home Economics — Grade Level(s): 7-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Secondary Grades 3. Make and use appropriate symbols, pictures, diagrams, scale drawings, and models to represent and simplify real-life situations and to solve problems.	Procedure #3 The students next sketch (or include photos) and label the plants on the calendar according to the season in which it is or can be harvested for human use.	

Activity Title: WHAT BEAR GOES WHERE? Activity Guide Page #: 98

Objective(s): Students will: 1) identify three species of bears and their habitats; and 2) generalize that animals are adapted in order to live where they do.

Overview: Students construct posters of three different bear habitats.

Subject Area(s): Science, Art Grade Level(s): K-3

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Elementary Grades Pre-K-2 1. Identify ways that organisms depend upon their environment.	Procedure #5 Have each group draw and cut out elements of the habitat of their bear (trees, grassy meadows and rocks for the grizzly; blocks of ice, snow, fish and seals for the polar bear; forest trees, bushes, nuts, fruits and berries for the black bear) and glue these elements around the picture of their bear. (Make sure that examples of all major habitat needs are included: food, water shelter and space in which to live.)	• ensure that all elements of habitat are included in poster
	Elementary Grades 3-4 3. Compare and contrast physical and living components of different biomes - i.e., regions characterized by their climate and plant life - (e.g., tundra, rain forest, ocean, desert).	Procedure #6 Discuss how each environment has characteristic life forms, adapted to its climate, kinds of available food, etc. Emphasize that all animals are adapted to survive.	• every student should process this question in some way
Science and Technology D. Continuity and Change Students will understand the basis for all life and that all living things change over time.	Elementary Grades Pre-K-2 2. Identify characteristics that help organisms live in their environment.	Procedure #2 Think about how each bear looks and whether that helps it to live where it lives.	
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades Pre-K-2 6. Use objects and pictures to represent scientific and technological ideas.	Procedure #5 Have each group draw and cut out elements of the habitat of their bear.	

Activity Title: GRAPHANANIMAL — Activity Guide Page #: 100

Objective(s): Students will: identify characteristic life forms in two different environments.

Overview: Students create picture collections of animals in two different habitats, then "visit" the habitat by going on a "nature walk" in their classroom, where they tally the number of animals they see and then graph and compare the results.

Subject Area(s): Science, Math, Language Arts — Grade Level(s): 2-6

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades Pre-K-2 5. Make and read simple graphs.	Procedure #7 Using the graphs, compare the two environments.	• at 2nd grade level only
	Elementary Grades 3-4 4. Make and/or use sketches, tables, graphs, physical representations, and manipulatives to explain procedures and ideas.	Procedure #7	

Activity Title: URBAN NATURE SEARCH — Activity Guide Page #: 102

Objective(s): Students will: generalize that each environment has characteristic life forms.

Overview: Students go outside to observe an environment and use the questionnaire to assist in gathering data.

Subject Area(s): Science, Language Arts, Social Studies — Grade Level(s): 4-9

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Middle Grades 5-8 4. Generate examples of the variety of ways that organisms interact (e.g., competition, predator/prey, parasitism/mutualism).	Procedure #3 Look for evidence of predator/prey relationships. If any mammal, bird or insect is seen – attempt to determine what animal is its predator or prey. Record evidence of plant disease and insect damage. . .	• bulleted items must be emphasized in student questionnaire
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Elementary Grades 3-4 2. Conduct scientific investigations: make observations, collect and analyze data, and do experiments.	Procedure #5 Involve the students in a discussion of their observations, their techniques and their conclusions.	• each student must collect data
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades 3-4 3. Draw conclusions about observations.	Procedure #5 Encourage the generalization, warranted by the results of their investigation, that each environment has characteristic life forms.	

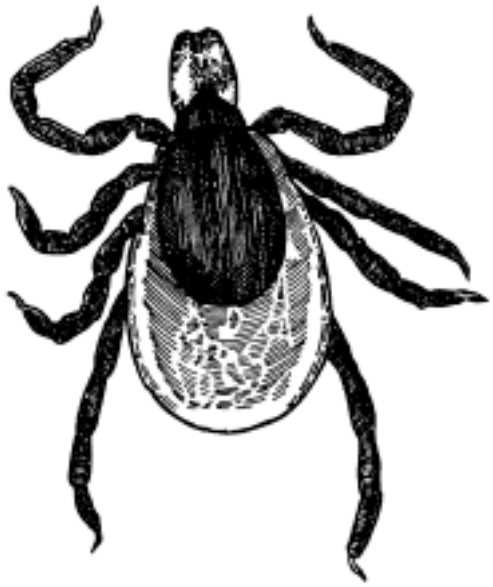
Activity Title: GOOD BUDDIES — Activity Guide Page #: 104

Objective(s): Students will: 1) define symbiosis, commensalism, mutualism and parasitism; 2) identify animals that live in each type of symbiotic relationship; and 3) explain that symbiotic relationships are examples of the intricate web of interdependence within which all plants and animals live.

Overview: Students research pairs of animals, play a card game, and classify the pairs of animals according to three major forms of symbiotic relationship.

Subject Area(s): Science, Language Arts — Grade Level(s): 4-7

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Middle Grades 5-8 4. Generate examples of the variety of ways that organisms interact (e.g., competition, predator/prey, parasitism/mutualism).	<u>Procedure #3</u> These pairs of buddies should then research to find out why they are buddies, answering the following questions: Why do we live together? What advantages and disadvantages do we provide one another? What would happen if one of us weren't here?	



Activity Title: FOREST IN A JAR — Activity Guide Page #: 108

Objective(s): Students will: 1) observe and describe succession; and 2) summarize that they have learned about how environments can change.

Overview: Students conduct an experiment using soil, water, seeds, a plant and a jar; and then draw a poster to represent their observations and findings.

Subject Area(s): Science — Grade Level(s): K-6

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Elementary Grades 3-4 4. Investigate the connection between major living and nonliving components of a local ecosystem.	Procedure #5 As the water evaporates down to the soil, the aquatic plant will die. The bird seeds will now typically find the environment suitable for successful growth.	• students must recognize the relationship between aquatic plants/.seeds (living) and soil moisture content (non-living)
	Middle Grades 5-8 3. Describe succession and other ways that ecosystems can change over time.	Procedure #6 Ask them to talk about what they have learned about how environments can change. Introduce the term "succession" to the older students.	
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades 3-4 3. Draw conclusions about observations.	Evaluation #2 Above are some illustrations of succession in a pond. Number these drawings to show their order from what would be most likely to be first to what would be likely to be last.	• students should relate drawings to observations of experiment.
	Middle Grades 5-8 9. Apply analogous reasoning.	Evaluation #2	• same as above
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades Pre-K-2 6. Use objects and pictures to represent scientific and technological ideas.	Procedure #6 Have students make a poster, drawing or other visual representation of what they saw happen to their "pond."	

Activity Title: POND SUCCESSION — Activity Guide Page #: 110

Objective(s): Students will: 1) recognize that natural environments are involved in a process of continual change; 2) discuss the concept of succession; 3) describe succession as an example of the process of change in natural environments; and 4) apply understanding of the concept of succession by drawing a series of pictures showing stages of pond succession.

Overview: Students create murals showing three major stages of pond succession.

Subject Area(s): Science, Social Studies — Grade Level(s): 4-9

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Middle Grades 5-8 3. Describe succession and other ways that ecosystems can change over time.	Evaluation #1 Draw a picture, with explanations, to show stages in pond succession.	
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades 3-4 4. Make and/or use sketches, tables, graphs, physical representations, and manipulatives to explain procedures and ideas.	Procedure #3 Explain to the students that they will be drawing a series of three views of a pond over a time period of about 800 years.	

This rubric focuses on the content addressed in the science and technology performance indicators. The task is for students to draw a series of three views of a pond over a time period of about 800 years.

4	Students exceed the standard if they are more thorough than the criteria established in #3 below. If they are particularly creative and persuasive in their presentation of the concept of pond succession.
3	Students meet the standard if they draw or depict a set of at least 3 sequenced stages showing pond succession from the side view. Students much include recognizable animals or plants that live in the water, along the shoreline, and in the surrounding area. Students should appropriately identify early successional plants and show typical changes in the environment that could occur. The stages must be sequenced appropriately and accurately explained. Students must label their diagrams clearly.
2	Students partially address the standard if they draw only 2 stages or they do not depict animals and plants in the water, along the shoreline, and in the surrounding area, or they do not adequately explain each stage and corresponding image.
1	Students do not meet the standard if the concept of pond succession is not clearly communicated.

Activity Title: THE THICKET GAME			Activity Guide Page #: 112
Objective(s): Students will: 1) define adaptations in animals; and 2) generalize that all animals are adapted to survive.			
Overview: Students become "predator" and "prey" in a version of "hide and seek."			
Subject Area(s): Science, Physical Education, Language Arts			Grade Level(s): K-6
Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology D. Continuity and Change Students will understand the basis for all life and that all living things change over time.	Elementary Grades Pre-K-2 2. Identify characteristics that help organisms live in their environment.	Procedure #7 Discuss what made predators and prey successful. Were they quiet, clear, camouflaged, or good listeners? Ask students to identify animals that are adapted with similar characteristics to survive.	
	Elementary Grades 3-4 3. Explain how adaptations, in response to change over time, may increase a species' chances of survival.	Procedure #8 Ask the students how they could change to become more successful predators and prey.	• PARTIAL ALIGNMENT: complete alignment if reproduction concept is included

Activity Title: ADAPTATION ARTISTRY — Activity Guide Page #: 114

Objective(s): Students will: 1) identify and describe the advantages of bird adaptations; and 2) evaluate the importance of adaptations to birds.

Overview: Students design and create imaginary birds, and write reports including descriptions of the birds' adaptations.

Subject Area(s): Science, Art, Language Arts — Grade Level(s): 4-9

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology A. Classifying Life Forms Students will understand that there are similarities within the diversity of all living things.	Middle Grades 5-8 3. Describe some structural and behavioral adaptations that allow organisms to survive in a changing environment.	Procedure #5 Students should also include their lists of adaptations, the reasons for the adaptations, and the advantages provided by the adaptations.	
Science and Technology D. Continuity and Change Students will understand the basis for all life and that all living things change over time.	Elementary Grades 3-4 3. Explain how adaptations, in response to change over time, may increase a species' chances of survival.	Procedure #1 Discuss with the students the various adaptations given in the background section of this activity, listing the charts on a chalkboard for reference by the students. Or brainstorm a list of bird characteristics, name the birds with such characteristics, and describe the advantage of the adaptations represented by the characteristic.	
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades 3-4 4. Make and/or use sketches, tables, graphs, physical representations, and manipulatives to explain procedures and ideas.	Procedure #4 Using their list of adaptations each student will create his or her own original bird; for example, by drawing or sculpting it.	

Activity Title: SEEING IS BELIEVING, or THE EYES HAVE IT! Activity Guide Page #: 116

Objective(s): Students will: identify different kinds of vision as an example of adaptation in animals.

Overview: Students use kaleidoscopes, binoculars, or telescopes, and fish-eye mirrors; imagine what animals might have such vision; and make posters showing animals that do have such vision.

Subject Area(s): Science, Language Arts, Art Grade Level(s): K-6

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology A. Classifying Life Forms Students will understand that there are similarities within the diversity of all living things.	Middle Grades 5-8 3. Describe some structural and behavioral adaptations that allow organisms to survive in a changing environment.	Procedure #3 Ask the students to guess what kinds of animals might have each of these three types of vision, emphasizing that the way an animal sees is a form of adaptation. Adaptation is something animals have in order to survive in an environment.	
Science and Technology D. Continuity and Change Students will understand the basis for all life and that all living things change over time.	Elementary Grades Pre-K-2 2. Identify characteristics that help organisms live in their environment.	Evaluation #2 How do the eyes of eagles help them to hunt better?	
	Elementary Grades 3-4 3. Explain how adaptations, in response to change over time, may increase a species' chances of survival.	Procedure #3	

Activity Title: SURPRISE TERRARIUM — Activity Guide Page #: 118

Objective(s): Students will: 1) identify camouflage as an example of an adaptation in an animal; and 2) describe the importance of adaptation to animals.

Overview: Students observe a live animal that uses camouflage techniques.

Subject Area(s): Science, Language Arts — Grade Level(s): K-3

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology D. Continuity and Change Students will understand the basis for all life and that all living things change over time.	Elementary Grades Pre-K-2 2. Identify characteristics that help organisms live in their environment.	Procedure #3 Ask the students to think of animals that blend with their environments. Talk about their ideas. Show photos or bring in magazines and ask the students to look for pictures of animals that look so muck like where they live they are hard to see. Are the animals camouflaged? Camouflage is one way animals are adapted in order to survive.	
	Elementary Grades 3-4 3. Explain how adaptations, in response to change over time, may increase a species' chances of survival.	Procedure #5 Ask the student to summarize some of the things they have learned about “adaptation” and its importance to animals.	

Activity Title: POLAR BEARS IN PHOENIX?!			Activity Guide Page #: 120
Objective(s): Students will: identify problems for animals moved from its natural environment to captivity.			
Overview: Students design and draw a zoo enclosure for the survival of a polar bear in a hot, arid climate.			
Subject Area(s): Science, Language Arts, Social Studies			Grade Level(s): 2-6
Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Elementary Grades 3-4 3. Compare and contrast physical and living components of different biomes - i.e., regions characterized by their climate and plant life - (e.g., tundra, rain forest, ocean, desert).	Procedure #2 Compare and contrast the two environments. Identify and describe the bears habitat needs.	
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades 3-4 4. Make and/or use sketches, tables, graphs, physical representations, and manipulatives to explain procedures and ideas.	Procedure #2 Tell the students they will each have the opportunity to design their own zoo enclosure for a polar bear that is being moved from its natural habitat in northern Alaska to the desert environment of Phoenix, Arizona.	

Activity Title: QUICK FROZEN CRITTERS — Activity Guide Page #: 122

Objective(s): Students will: 1) discuss predator/prey relationships including adaptations; 2) describe the importance of adaptation in predator/prey relationships; and 3) recognize that the limiting factors-- including predator/prey relationships-- affect wildlife populations.

Overview: Students play an active version of "freeze tag."

Subject Area(s): Science, Physical Education — Grade Level(s): 4-6

Standard	Performance Indicators (by grade clusters)	Evidence of alignment (text from activity description)	Notes to assure high alignment for every student
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Middle Grades 5-8 4. Generate examples of the variety of ways that organisms interact (e.g., competition, predator/prey, parasitism/mutualism).	Procedure #10 Ask the students to summarize what they have learned about predator/ prey relationships?	
	Secondary Grades 3. Analyze the factors that affect population size (e.g., reproductive and survival rates).	Procedure #10 How do predator/prey relationships serve as natural limiting factors affecting wildlife?	• emphasis should be placed on the affect these relationships have on population size.

Activity Title: CLASSROOM CARRYING CAPACITY — Activity Guide Page #: 126

Objective(s): Students will: 1) define carrying capacity; and 2) give examples of factors that can influence the carrying capacity of an area.

Overview: Students sit unusually close to one another and describe the results.

Subject Area(s): Science, Social Studies, Language Arts — Grade Level(s): K-6

Standard	Performance Indicators (by grade clusters)	Evidence of alignment (text from activity description)	Notes to assure high alignment for every student
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment	Middle Grades 5-8 2. Analyze how the finite resources in an ecosystem limit the types and populations of organisms within it.	Procedure #2 (for grades 4-6 students) How might a habitat or its carrying capacity be suddenly decreased in size? What are some of the ways that the carrying capacity of a habitat might be increased? (For example, by providing some of the basic survival needs of animals.)	

Activity Title: MUSKOX MANEUVERS — Activity Guide Page #: 130

Objective(s): Students will: 1) evaluate the effectiveness of some adaptations in predator/prey relationships; and 2) describe the importance of predator/prey relationships as limiting factors in wildlife populations.

Overview: Students simulate musk-oxen and wolves in a highly involving game of physical activity.

Subject Area(s): Science, Physical Education — Grade Level(s): 4-9

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Middle Grades 5-8 4. Generate examples of the variety of ways that organisms interact (e.g., competition, predator/prey, parasitism/mutualism).	Evaluation Name a prey species and its predator species. Describe how each is adapted to the other. How does the prey protect itself? How does the predator overcome this protection?" Describe the overall effectiveness of each animal's adaptations.	

Activity Title: HOW MANY BEARS CAN LIVE IN THIS FOREST?			Activity Guide Page #: 134
Objective(s): Students will: 1) define a major component of habitat; and 2) identify a limiting factor.			
Overview: Students become "bears" to look for one or more components of habitat during this physically-involving activity.			
Subject Area(s): Science, Social Studies, Math, Physical Education			Grade Level(s): 3-9
Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Middle Grades 5-8 2. Analyze how the finite resources in an ecosystem limit the types and populations of organisms within it.	Evaluation #1 Define the "limiting factor." Describe some of the factors which may limit the survival of an animal that lives in your area.	
	Secondary Grades 3. Analyze the factors that affect population size (e.g., reproductive and survival rates).	Procedure #14 What limiting factors, cultural and natural, would e likely to actually influence the survival of individual bears and populations of bears in an area?	

Activity Title: RAINFALL AND THE FOREST — Activity Guide Page #: 140

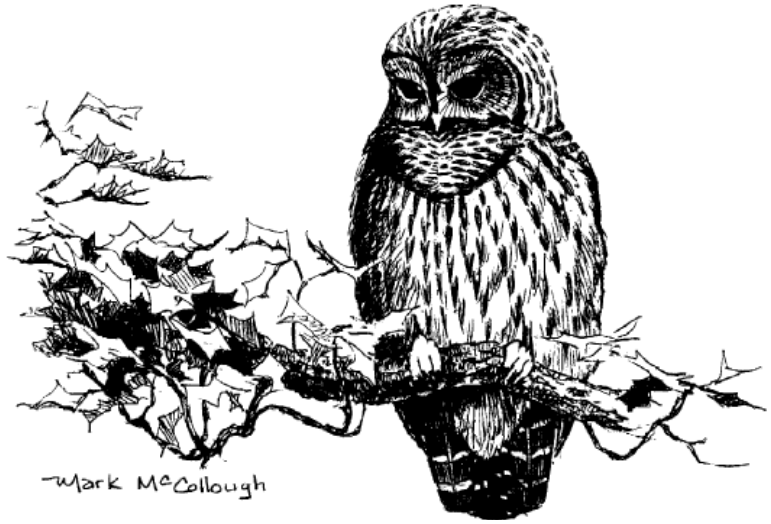
Objective(s): Students will: 1) correlate rainfall data with vegetative communities; 2) correlate vegetative communities with animal life; 3) recognize interrelationships among living and nonliving elements of the environment, and 4) understand that populations and the fluctuations of those populations are influenced by ever-changing climatic conditions.

Overview: Students work with state highway and vegetative maps to determine relationships between rainfall, vegetation, and animal habitats.

Subject Area(s): Science, Social Studies — Grade Level(s): 6-9

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Middle Grades 5-8 2. Analyze how the finite resources in an ecosystem limit the types and populations of organisms within it.	Evaluation #1 Write an essay describing the importance of rainfall and vegetative types to wildlife habitat.	
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Secondary Grades 2. Verify, evaluate, and use results in a purposeful way. This includes analyzing and interpreting data, making predictions based on observed patterns, testing solutions against the original problem conditions, and formulating additional questions.	Procedure #7 Find similarities in shapes created on student maps and those on vegetative maps. What rainfall level fits what vegetation type?	
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Middle Grades 5-8 4. Make and use scale drawings, maps, and three-dimensional models to represent real objects, find locations, and describe relationships.	Procedure #7 Find similarities in shapes created on student maps and those on vegetative maps.	
	Secondary Grades 4. Employ graphs, tables, and maps in making arguments and drawing conclusions.	Procedure #7	

Activity Title: OWL PELLETS			Activity Guide Page #: 144
Objective(s): Students will: be able to construct a simple food chain.			
Overview: Students examine owl pellets, reconstruct prey skeletons, and identify prey.			
Subject Area(s): Science			Grade Level(s): 3-7
Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Elementary Grades 3-4 1. Describe a food web and the relationships within a given ecosystem.	Procedure #6 Make a food chain that includes the owl, its prey, and what the prey eats. Discuss.	
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades 3-4 3. Draw conclusions about observations.	Procedure #3 Use a hand lens or magnifying glass to look at the teeth. Consider how the teeth are arranged. Would they work best at tearing flesh, grinding seeds, or eating plants?	



Activity Title: BIRDS OF PREY — Activity Guide Page #: 150

Objective(s): Students will: 1)interpret a graph of an animal population, nothing changes over time; 2) hypothesize a relationship between temperature, ground squirrel behavior and falcon populations; 3) predict the foraging distribution of falcons following the aestivation of ground squirrels; and 4) generalize that ecosystems are comprised of interdependent parts.

Overview: Students interpret data, and generate and test hypotheses.

Subject Area(s): Mathematics, Science — Grade Level(s): 10-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Middle Grades 5-8 4. Generate examples of the variety of ways that organisms interact (e.g., competition, predator/prey, parasitism/mutualism).	Procedure #2 Have them look at the graph to see what happens to the populations of predator and prey. How do these populations seem to be related?	
	Secondary Grades 3. Analyze the factors that affect population size (e.g., reproductive and survival rates).	Procedure #2 What do you notice about he ground squirrel population in July? What do you think caused this? What might have happened to the squirrels?	
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Secondary Grades 4. Employ graphs, tables, and maps in making arguments and drawing conclusions.	Procedure #3 Show the students graphs B, C, D and E. Using the information provided on these graphs, encourage the students to test their ideas and hypotheses.	

Activity Title: CARRYING CAPACITY			Activity Guide Page #: 152
Objective(s): Students will: 1) formulate and test hypotheses related to wildlife populations and carrying capacity; and 2) describe the significance of carrying capacity.			
Overview: Students become herds of animals seeking food in a physically-involving activity.			
Subject Area(s): Mathematics, Science, Social Studies			Grade Level(s): 7-12
Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Middle Grades 5-8 2. Analyze how the finite resources in an ecosystem limit the types and populations of organisms within it.	Procedure #5 The food will run out before the next growing season begins and a significant percentage of the animals will die depending on the size of the "herd."	
	Secondary Grades 3. Analyze the factors that affect population size (e.g., reproductive and survival rates).	Procedure #7 Repeat the activity one more time, incorporating one of the options used above, and also include five or six young animals born the previous spring. This can be done by designating one student in each "herd" to take food for themselves and an offspring. How does this annual increase affect the population? What must now happen to re-establish the herd size within carrying capacity?	

Activity Title: I'M THIRSTY — Activity Guide Page #: 154

Objective(s): Students will: make inferences about the importance of adaption in order for wildlife and other animals to survive.

Overview: Students use data provided to perform mathematical calculations and make inferences.

Subject Area(s): Mathematics, Science — Grade Level(s): 7-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology A. Classifying Life Forms Students will understand that there are similarities within the diversity of all living things.	Middle Grades 5-8 3. Describe some structural and behavioral adaptations that allow organisms to survive in a changing environment.	Procedure #4 Discuss the importance of adaptations to wildlife and other animals, based on the example of the bighorn sheep in the southwestern United States.	

Activity Title: WHICH NICHE? — Activity Guide Page #: 158

Objective(s): Students will: 1) define ecological niche; and 2) give at least one example of an animal in its ecological niche.

Overview: Students compare ecological niches with careers in their community.

Subject Area(s): Social Studies, Career Education, Science, Language Arts, Vocational Agriculture — Grade Level(s): 7-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Middle Grades 5-8 4. Generate examples of the variety of ways that organisms interact (e.g., competition, predator/prey, parasitism/mutualism).	Evaluation #2 Select any animal or person and describe its ecological niche. Include: What they do for the community, how they provide this service, the resources they use, where they live, when they do their work, what other organisms depend upon them, what other organisms they are dependent upon, what special adaptations they use or are required to have, . .	

Activity Title: WHO FITS HERE? Activity Guide Page #: 160

Objective(s): Students will: 1) identify characteristic life forms in ecosystems; 2) match appropriate life forms to ecosystems; and 3) generalize that each ecosystem has characteristic life forms, adapted to live there.

Overview: Students play an identification game using posters and cards.

Subject Area(s): Science, Language Arts Grade Level(s):7-9

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology A. Classifying Life Forms Students will understand that there are similarities within the diversity of all living things.	Middle Grades 5-8 3. Describe some structural and behavioral adaptations that allow organisms to survive in a changing environment.	Procedure #2 Have each group research their ecosystems, learning its characteristic life forms including adaptations of the animals that enable them to survive in that environment.	

Activity Title: TURKEY TROUBLE — Activity Guide Page #: 164

Objective: Students will: 1) define and give examples of exponential and linear growth rates in wildlife populations; and 2) describe factors that affect and limit growth of wildlife populations.

Overview: Students make computations and interpret results

Subject Area(s): Mathematics, Science, Social Studies, Environmental Problems — Grade Level(s):10-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Secondary Grades 3. Analyze the factors that affect population size (e.g., reproductive and survival rates).	Procedure Task 5, # 3 All populations have the potential to increase at an exponential rate. What factors limit this potential?	• each student should compare and contrast "assumptions" with a natural situation
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Secondary Grades 5. Critique models, stating how they do and do not effectively represent the real phenomenon.	Procedure Task 5, #2 The estimate of the true population on the Merriman's turkey by the Wyoming Game and Fish Department at the end of five years was 2,500. How can we account for the difference? Were any of the original assumptions incorrect? Which ones?	

Activity Title: WILDWORK — Activity Guide Page #: 168

Objective: Students will: be able to name and describe three wildlife occupations.

Overview: Students brainstorm a list of wildlife-related careers, prepare presentations and dramatize occupations for their classmates.

Subject Area(s): Career Education, Language Arts, Social Studies, Science — Grade Level(s): Pre-K-12

Standard	Performance Indicators (by grade clusters)	Evidence of alignment (text from activity description)	Notes to assure high alignment for every student
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades Pre-K-2 4. Participate in brainstorming activities.	Procedure #2 In a class discussion, find out what kinds of jobs students imagine exist in animal-related fields. Do any of their parents have animal or wildlife-related jobs? Make some suggestions about possible careers and compile a list of occupations that students have brainstormed.	• each student should be given time to consider and report on possible occupations

Activity Title: HERE TODAY GONE TOMORROW — Activity Guide Page #: 170

Objective: Students will: be able to 1) Identify and describe some causes for extinction of animal species; 2) Define "threatened", "rare", and "endangered" as applied to wildlife; 3) Name threatened and endangered animals living in their area.

Overview: Students become familiar with classification of animals, conduct research, and make a master list of threatened and endangered animals locally and/or nationally, including factors affecting the animals' condition.

Subject Area(s): Science, Language Arts, Social Studies — Grade Level(s): 5-12

Standard	Performance Indicators (by grade clusters)	Evidence of alignment (text from activity description)	Notes to assure high alignment for every student
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Secondary Grades 2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.	Procedure #4 Make copies of this information for all the students. Discuss the findings. What seem to be the most prevalent factors affecting the animals; e.g., habitat loss, pollution, impact from introduced species?	• discussion must cover peoples' responsibility in causing and or managing the factors that affect endangered animals

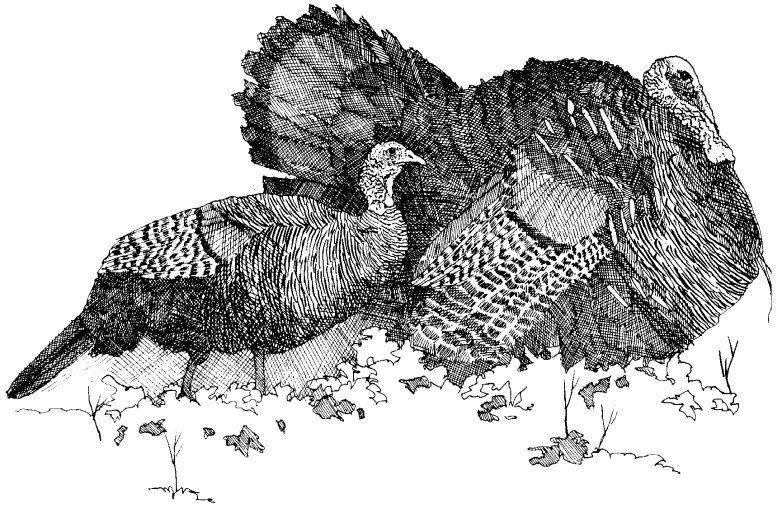
Activity Title: WHO LIVES HERE — Activity Guide Page #: 174

Objective: Students will: 1) identify some native and non-native animal inhabitants of their area and of the United States; and 2) give some examples of effects of introducing animal species to an area where they were not originally found.

Overview: Students research and write reports about native and introduced animal species and conduct a class "quiz" and discussion.

Subject Area(s): Language Arts, Science, Social Studies — Grade Level(s): 4-9

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology A. Classifying Life Forms Students will understand that there are similarities within the diversity of all living things.	Elementary Grades 3-4 2. Design and describe a classification system for organisms.	<u>Procedure #3</u> Ask students to write short research papers on their animals. Also, have each student write the name of his or her animal on a piece of paper. Collect these and use them for a native/non-native quiz. Have the students vote "native" or "non-native" as each animals name is pulled from the box.	
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Secondary Grades 4. Analyze the impact of human and other activities on the type and pace of change in ecosystems.	<u>Evaluation #3</u> When animals are introduced to new areas, they can either become extinct or be successful in their new home. What usually happens to other animals when an introduced species is successful? Why?	• emphasize human responsibility, intentional and unintentional, for introducing new species into ecosystems



Activity Title: PLANTING ANIMALS — Activity Guide Page #: 176

Objective: Students will: 1) describe reasons for "transplanting" animals; and 2) identify one animal that has been transplanted in their own state or province.

Overview: Students write a letter to state or provincial wildlife agency for information and make dioramas of transplanted animals in new habitats.

Subject Area(s): Language Arts, Science, Art — Grade Level(s): 4-9

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Middle Grades 5-8 6. Give examples of actions which may have expected or unexpected consequences that may be positive, negative, or both.	Procedure #2 What positive and/or negative effects, if any, have taken place for the transplanted animals, for other animals in the area, for the habitat?	

Activity Title: SMOKEY BEAR SAID WHAT? Activity Guide Page #:178

Objective: Students will: be able to: 1) identify positive and negative consequences of forest and grassland fires; and 2) describe some of the changes fire can make in ecosystems.

Overview: Students brainstorm positive and negative effects of forest and grassland fires; conduct research; and create murals showing changes from the fire in forest and grassland ecosystems.

Subject Area(s): Science, Social Studies, Art, Language Arts (research) Grade Level(s): 4-6

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Elementary Grades 3-4 4. Investigate the connection between major living and nonliving components of a local ecosystem.	Evaluation #4 Summarize conditions in which fire can be helpful to some wildlife species and conditions when it is usually not helpful.	
	Middle Grades 5-8 3. Describe succession and other ways that ecosystems can change over time.	Procedure #4 Once any necessary research has been done, ask the students to divide into groups to make two murals – one of a forested area and one of grasslands. Each mural should portray changes from before to during and after a fire. Analyze and discuss positive and negative consequences of forest and grassland fires.	
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades 3-4 4. Make and/or use sketches, tables, graphs, physical representations, and manipulatives to explain procedures and ideas.	Procedure #4	
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades 3-4 6. Practice and apply simple logic, intuitive thinking, and brainstorming.	Procedure #2 Brainstorm possible positive and negative effects of forest and grassland fires.	

Activity Title: FIRE ECOLOGIES — Activity Guide Page #: 182

Objective: Students will: be able to identify, describe and evaluate some positive and negative effects on wildlife that result from forest and grassland fires.

Overview: Students conduct a field investigation.

Subject Area: Science, (Biology, Chemistry, Earth Science), Social Studies, (in extension) — Grade Level(s): 7-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Middle Grades 5-8 3. Describe succession and other ways that ecosystems can change over time.	Procedure #6 Ask the students to summarize their findings, including short-term and long-term effects to wildlife in each area, both positive and negative.	• succession/regeneration should be considered through analysis of short-term and long-term effects
	Secondary Grades 4. Analyze the impact of human and other activities on the type and pace of change in ecosystems.	Procedure #6 Ask the students to summarize their findings, including short-term and long-term effects to wildlife in each area, both positive and negative. . .	
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Middle Grades 5-8 2. Design and conduct scientific investigations which include controlled experiments and systematic observations.	Procedure #4 If the field trip is possible, prepare students to: a) make and record their observations, e.g., variety and quantity of vegetation, evidence of wildlife, actual sightings of wildlife; and b) with permission of the landholder, take small soil samples in the various areas for testing purposes.	• students must collect data samples on a field trip; use with upper middle grades
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Secondary Grades 4. Determine when there is a need to revise studies in order to improve their validity through better sampling, controls or data analysis techniques.	Procedure #6 Ask the students to summarize their findings, including short-term and long-term effects to wildlife in each area, both positive and negative. . .	

Activity Title: CHECKS AND BALANCES — Activity Guide Page #: 186

Objective: Students will: be able to: 1) evaluate hypothetical wildlife management decisions; and 2) identify at least four factors that can affect the size of a wildlife population.

Overview: Students become managers of a herd of animals in a paper-and-pencil and discussion-based activity.

Subject Area(s): Mathematics, Science, Vocational Agriculture — Grade Level(s): 6-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Middle Grades 5-8 2. Analyze how the finite resources in an ecosystem limit the types and populations of organisms within it.	Procedure #3 Identify and describe what appeared to be the impact of the condition cards. What are examples of ways that habitat can be improved?	• for all students to learn the standards, the teacher should include way for students to reflect (individually or small group) and to record their own responses, rather than just class discussion
	Secondary Grades 3. Analyze the factors that affect population size (e.g., reproductive and survival rates).	Procedure #3 Identify and describe what appeared to be the impact of the condition cards.	• same as above
	Secondary Grades 4. Analyze the impact of human and other activities on the type and pace of change in ecosystems.	Procedure #3 Did populations managed under different strategies show different trends?	• same as above
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Secondary Grades 2. Verify, evaluate, and use results in a purposeful way. This includes analyzing and interpreting data, making predictions based on observed patterns, testing solutions against the original problem conditions, and formulating additional questions.	Procedure #3 What seemed to be the benefits and/or liabilities, if any, of management decisions made? Did management strategies by different students show different trends? How do these compare? Would students "manage" differently if given a second chance?	• same as above

Activity Title: THE HUNTER — Activity Guide Page #: 190

Objective: Students will: be able to: 1) describe their feelings about hunting; 2) compare their attitudes to those of other people; and 3) make personal judgements about the appropriateness of hunting.

Overview: Students read and discuss a story.

Subject Area(s): Social Studies, Language Arts, Science, Math — Grade Level(s): 5-9

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Middle Grades 5-8 8. Construct logical arguments.	Procedure #4 Next ask the students to discuss the story and their endings to it. How do they think Jaime feels about hunting? How do they think Jaime feels about the animal he is hunting? Ho do each of them feel about animals and about hunting? Additional questions for discussion could include: Why is legal hunting allowed? What is the difference between hunting and poaching? . . . In your judgement what, if any, are appropriate reasons hunting should not be allowed?	
	Secondary Grades 6. Analyze situations where more than one logical conclusion can be drawn.	Procedure #4	

Activity Title: WILDLIFE RESEARCH — Activity Guide Page #: 198

Objective: Students will: be able to: 1) identify reasons for research related to wildlife; 2) evaluate appropriate kinds of research related to wildlife; and 3) design and conduct a wildlife research project.

Overview: Students evaluate types of research involving wildlife, apply their results to develop individual research proposals that meet criteria for appropriateness and conduct research.

Subject Area(s): Science (Biology), English, Environmental Problems, Social Studies, (Psychology, Current Issues) — Grade Level(s): 7-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Middle Grades 5-8 2. Design and conduct scientific investigations which include controlled experiments and systematic observations.	Procedure #7 After project approval, students conduct their research. They should compile their results and, if possible, draw conclusions.	• teacher is responsible for ensuring that all student projects follow the correct method of investigation
	Secondary Grades 2. Verify, evaluate, and use results in a purposeful way. This includes analyzing and interpreting data, making predictions based on observed patterns, testing solutions against the original problem conditions, and formulating additional questions.	Procedure #7 After project approval, students conduct their research. They should compile their results and, if possible, draw conclusions. Their data my not support any conclusions. It is important for students to learn not to extend their conclusions beyond what their data support . . .	• same as above
	Secondary Grades 3. Demonstrate the ability to use scientific inquiry and technological method with short term and long term investigations, recognizing that there is more than one way to solve a problem. Demonstrate knowledge of when to try different strategies.	Procedure #7	• same as above

Activity Title: BIRD SONG SURVEY — Activity Guide Page #: 200

Objective: Students will: be able to identify and describe the importance of bird counting as one means of inventorying wildlife populations.

Overview: Students investigate an area and use bird-counting techniques.

Subject Area(s): Mathematics, Science, (Biology, Zoology), Language Arts — Grade Level(s): 9-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Secondary Grades 1. Make accurate observations using appropriate tools and units of measure.	Procedure #5 Now it is time to visit the site to apply the knowledge and skills the students have been working to acquire. Select a trail, path or road to walk it the area that has an easily discernible starting and ending point. . . .	
	Secondary Grades 2. Verify, evaluate, and use results in a purposeful way. This includes analyzing and interpreting data, making predictions based on observed patterns, testing solutions against the original problem conditions, and formulating additional questions.	Procedure #7 Once back in class, have the students compile the results of their observations. Procedure #8 As an option – a small group of students might volunteer to compile all the findings in a written format, including magazine photos or sketches for the birds, etc. This booklet could serve as the beginning of a year-to-year recorded of the inventory of birds in that location at that time of year, . . .	• procedure #8 is an "option" – this "option" must be completed in order to fully meet this standard
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Secondary Grades 4. Employ graphs, tables, and maps in making arguments and drawing conclusions.	Procedure #7 Once back in class, have the students compile the results of their observations. Map the site an mark the locations of bird sightings, e.g., using colored dots for birds with an explanatory key.	

Activity Title: DEER CROSSING — Activity Guide Page #: 202

Objective: Students will: be able to: 1) identify various factors involved in a wildlife management issue; and 2) evaluate alternatives in a complex issue involving wildlife.

Overview: Students are given background information and asked to make recommendations.

Subject Area(s): Social Studies, (Government, History, Civics), Language Arts, Environmental Problems, Science — Grade Level(s): 7-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Middle Grades 5-8 6. Support reasoning by using a variety of evidence.	Procedure #2 Identify and describe alternative solutions, and state recommended action, with reasons.	
	Secondary Grades 6. Analyze situations where more than one logical conclusion can be drawn.	Evaluation #2 List at least four factors that should be considered in this resource management issue. Identify, describe and evaluate at least four possible actions that could be taken to resolve the resource problems which have developed, . . .	
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Middle Grades 5-8 1. Research and evaluate the social and environmental impacts of scientific and technological developments.	Evaluation #2 Consider this situation: A stream, dammed for flood control five years ago, has become an area for a number of wildlife and human problems. Because of the quantity of still and warm water available, the mosquito population is up and the number of fish species is being reduced. . . List at least four factors that should be considered in this resource management issue. Identify, describe and evaluate at least four possible actions that could be taken to resolve the resource problems which have developed, attending to the diverse values represented in the community as well as overall wildlife and human needs.	
	Secondary Grades 2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.	Evaluation #2	

Activity Title: RIPARIAN ZONE — Activity Guide Page #: 206

Objective: Students will: be able to: 1) identify and describe factors involved in land use planning; and 2) evaluate possible consequences for wildlife and other elements of the environment, including people, where land-use planning does not take place.

Overview: Students simulate a Board of Commissioner's meeting.

Subject Area(s): Social Studies, Environmental Problems, Language Arts, Science — Grade Level(s): 7-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Middle Grades 5-8 8. Construct logical arguments.	Procedure #4 Provide the groups with time to research and prepare presentations for the commission hearing in which they would convey their point of view on the topic.	
	Secondary Grades 6. Analyze situations where more than one logical conclusion can be drawn.	Evaluation #1 Identify three varying uses for which the same parcel on undeveloped land might be used.	
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Middle Grades 5-8 6. Identify and perform roles necessary to accomplish group tasks.	Procedure #3 Ask each group to appoint and illustrator, spokesperson and recorder.	
	Secondary Grades 4. Employ graphs, tables, and maps in making arguments and drawing conclusions.	Procedure #6 Ask each of the interest groups to prepare an illustration of their land use proposals and recommendations on butcher paper for visual aid as a part of their presentation at the hearing.	• student visual aid will have varying degrees of alignment
	Secondary Grades 8. Engage in a debate, on a scientific issue, where both points of view are based on the same set of information.	Procedure #7 When the groups are ready, ask the "Board of Commissioners" to convene the commission hearing. . . Each group should, as called upon, present its position on the topic to the commissioners. . .	• debate address by various positions of mock interest groups

Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Secondary Grades 2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.	<u>Evaluation #2</u> Describe possible negative consequences for people and wildlife in development occurs with no planning.	

Activity Title: WHO PAYS FOR WHAT? Activity Guide Page #: 212

Objective: Students will: be able to: 1) identify major sources of income historically used in support of wildlife and its habitat in the United States; 2) identify major present sources of funding; 3) describe any trends in funding; and 4) describe problems related to funding, if any.

Overview: Students identify principal sources of wildlife-related funds; correspond with agencies and organizations to investigate sources, amounts, uses, trends and problems concerning such funding; and summarize their findings.

Subject Area(s): Social Studies, Science, Language Arts Grade Level(s): 7-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Secondary Grades 2. Verify, evaluate, and use results in a purposeful way. This includes analyzing and interpreting data, making predictions based on observed patterns, testing solutions against the original problem conditions, and formulating additional questions.	Procedure #3 When the responses arrive, ask the students to compile, analyze, evaluate and summarize their findings into a report.	
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Secondary Grades 2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.	Evaluation #3 Based on the information you have acquired, what, if any, seem to be the most significant funding-related problems affecting wildlife, habitat and management of wildlife services.	

Activity Title: HISTORY OF WILDLIFE MANAGEMENT — Activity Guide Page #: 216

Objective: Students will: be able to: 1) define wildlife management; and 2) describe major trends in wildlife management philosophies and practices.

Overview: Students generate questions and contact agencies and organizations involved in wildlife management for information.

Subject Area(s): Social Studies, Language Arts, Career Education, Vocational Agriculture, Science, Environmental Problems — Grade Level(s): 7-12

Standard	**Performance Indicators (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Secondary Grades 2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.	Procedure #1 Ask the students to generate a list of questions to be directed to the agency responsible for wildlife management in their state and community. Their questions might include: When was the agency organized? Why was it organized? How is it legally constituted, and with what responsibilities? What is the agency's philosophy of wildlife management, how does it define wildlife management and what are its objectives? What major programs does the agency have in order to accomplish its objectives and responsibilities? Are these the same kinds of programs for which the agency has been responsible since it was established? . . .	• each student should address this question, or a similar question with the same theme, in order to meet the standard

Activity Title: LOBSTER IN YOUR LUNCH BOX — Activity Guide Page #: 222

Objectives: Students will: be able to: 1) identify which foods are derived from plants and which from animals; and 2) recognize that all food sources are originally derived from wild plants and animals.

Overview: Students plan and calculate the costs of a family's meals for one day; create a classroom chart; and analyze, discuss, and summarize findings.

Subject Area(s): Mathematics, Science, Language Arts, Health (nutrition) — Grade Level(s): 4-7

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology A. Classifying Life Forms Students will understand that there are similarities within the diversity of all living things.	Elementary Grades 3-4 2. Design and describe a classification system for organisms.	Procedure #2 What plant or plant products are on your menu? Place a P by these on your chart. What animals or animal products are on your menu? Place an A by these on your chart.	
	Middle Grades 5-8 1. Compare systems of classifying organisms including systems used by scientists.	Procedure #3 Identify which of these plants and animals were once wild, and are now domesticated as a food source. If possible, identify what the original wild plants and animals were, from which the foods were developed.	
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Elementary Grades 3-4 2. Conduct scientific investigations: make observations, collect and analyze data, and do experiments.	Procedure #3 Create a classroom chart, listing all the plants and animals. Discuss questions such as the following, noting results of the discussion on the class chart. Identify what these plants and animals need in order to survive. Trace each animals back to dependence on plants. Identify which of these plants and animals were once wild, and are now domesticated as a food source . . .	

Activity Title: FIRST IMPRESSIONS — Activity Guide Page #: 224

Objective(s): Students will: be able to: 1) distinguish between reactions to an animal based on myth or stereotype and those based on accurate information; and 2) recognize the value of animals' contributions to ecosystems-- even those that people sometimes respond to with fear.

Overview: Students react to a variety of photos as a beginning to study of contributions of a range of animals.

Subject Area(s): Science, Language Arts — Grade Level(s):K-6

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades 3-4 2. Describe how feelings can distort reasoning.	Evaluation #2 Invent a story. You can still tell it or write it. Describe someone's first impression to one of these animals: brown bat, bullfrog, spider, garter snake, or northern harrier. Then tell how that person's impression changes as he or she learns more about the animal.	
	Middle Grades 5-8 5. Identify stereotypes.	Procedure #4 Divide the students into teams with each team asked to find out more about one of the animals. In their research, they should find out whether the reactions of the students to the animals were based on accurate information and experiences or were based on misinformation and inadequate information. Each team should prepare a report to present, including a description of the importance of the animal's contribution to the ecosystem.	

Activity Title: AND THE WOLF WORE SHOES — Activity Guide Page #: 226

Objective(s): Students will: 1) distinguish between animals based on "real life" and those based on "make believe;" and 2) give examples of real and make-believe animals and their characteristics.

Overview: Students divide books into those about "real" and those about "make-believe" animals and then distinguish between real and fictitious animal characteristics.

Subject Area(s): Language Arts, Reading, Science — Grade Level(s): 2-5

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology A. Classifying Life Forms Students will understand that there are similarities within the diversity of all living things.	Elementary Grades Pre-K-2 4. Design and describe a classification system for objects.	Procedure #3 Work quietly with each of the groups to check their classifications into “real” and “make-believe.”	• ultimately, students are classifying animals portrayed “real” or “make-believe”: this abstract concept is being made concrete through the use of books
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades Pre-K-2 5. Use various forms of simple logic.	Evaluation Name three things a make-believe animal often does that real-life animal cannot do.	
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades 3-4 4. Make and/or use sketches, tables, graphs, physical representations, and manipulatives to explain procedures and ideas.	Procedure #6 Using a chart like the one below, ask the students for examples from the books in their stack to fill in the blanks in the chart.	

Activity Title: SATURDAY MORNING WILDLIFE WATCHING — Activity Guide Page #: 228

Objective(s): Students will: 1) discriminate between realistic and unrealistic portrayals of wildlife and other animals in cartoons; 2) identify possible influences on people from watching cartoons; and 3) make judgements about appropriate and inappropriate behaviors they think can result from cartoon watching.

Overview: Students watch, report, discuss and evaluate cartoons on television or in comics.

Subject Area(s): Language Arts, Social Studies, Science — Grade Level(s): K-6

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades Pre-K-2 3. Make observations.	Procedure #3 Back in class, ask the students to report on what they noticed about the ways animals are portrayed in cartoons.	
	Elementary Grades 3-4 3. Draw conclusions about observations.	Procedure #4 Ask the students to discuss the ways they think cartoons might influence people. What kinds of information do they provide? Is the information accurate and real, not real, or sometimes both?	

Activity Title: DOES WILDLIFE SELL CIGARETTES? — Activity Guide Page #: 232

Objective(s): Students will: 1) identify use of wildlife and other natural images in advertising; 2) critically analyze and evaluate the purposes and impacts of using such images in advertising; and 3) recommend appropriate uses of such nature-derived images in advertising.

Overview: Students evaluate and categorize advertisements.

Subject Area(s): Language Arts, (Communication, Media, Semantics), Social Studies, Business Education — Grade Level(s): 6-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Middle Grades 5-8 5. Identify stereotypes.	Procedure #2 What stereotypes, if any, does the ad encourage or build upon?	

Activity Title: CHANGING ATTITUDES — Activity Guide Page #: 240

Objective(s): Students will: 1) give an example of a change in attitudes related to a wild animal and/or the environment; and 2) describe factors which may influence change in attitude.

Overview: Students design and conduct community interviews, compiling and summarizing findings.

Subject Area(s): Social Studies, Language Arts — Grade Level(s): 5-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Middle Grades 5-8 3. Identify basic informal fallacies in arguments.	Evaluation #2 Give two examples of attitudes about animals that you have reason to believe are based on wrong information or not enough information.	
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades 3-4 1. Record results of experiments or activities (e.g., interviews, discussions, field work) and summarize and communicate what they have learned.	Procedure #6 Compile the results of the interviews. Procedure #7 Discuss with the students their findings, including what changes in attitudes have taken place, if any, and what are some factors which might contribute to any changes in attitudes that they have identified.	• teachers may need to simplify interview question for students at this level

Activity Title: PHILOSOPHICAL DIFFERENCES — Activity Guide Page #: 242

Objective(s): Students will: 1) identify points of view of groups and organizations concerning wildlife, natural resources and environmental issues; and 2) describe possible effects of various groups and organizations having different points of view about wildlife, natural resources and environmental issues.

Method-Overview: Students select a wildlife or other environment-related issue of concern to members of their community and correspond with representatives of a range of interest groups about their philosophical positions concerning the issue.

Subject Area(s): Language Arts, Social Studies, Environmental Problems, Journalism, Communication — Grade Level(s): 7-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Secondary Grades 6. Analyze situations where more than one logical conclusion can be drawn.	<u>Evaluation</u> Not enough is known about the whooping crane, an endangered bird species. Some people feel that additional research must be conducted to learn more about the species. Some worry that direct human contact will accelerate the birds' population decline. Some think propagation in captivity is the best means of achieving a viable population. . .	
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Secondary Grades 2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.	<u>Procedure #7</u> In summary, ask the students to identify and describe points of view, if any, which some or all of the groups shared in common, and points of view, if any, in which the groups strongly differ. In what ways, if any, is it healthy for there to be groups with differing points of view? In what ways, if any, might it be damaging? What possible effects are there from individuals, groups and organizations having differing points of view with respect to wildlife, natural resources and environmental issues?	• students should acknowledge the connection between groups/organizations and resource management efforts

Activity Title: WILDLIFE ISSUES: COMMUNITY ATTITUDE SURVEY — Activity Guide Page #: 244

Objective(s): Students will: 1) assess the values held by various groups and individuals regarding some selected issue; and 2) distinguish between beliefs, values and attitudes.

Overview: Students develop a questionnaire and conduct a community survey.

Subject Area(s): Language Arts, Environmental Problems, Social Studies, Science, Mathematics — Grade Level(s): 7-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Middle Grades 5-8 2. Design and conduct scientific investigations which include controlled experiments and systematic observations.	Procedure #4 Students should sort and compile the questionnaire item generated by each group and come up with a final version of the questionnaire. Procedure #5 When the interviews are completed, the students may tally, analyze and discuss the results.	
	Secondary Grades 2. Verify, evaluate, and use results in a purposeful way. This includes analyzing and interpreting data, making predictions based on observed patterns, testing solutions against the original problem conditions, and formulating additional questions.	Procedure #3 Working in small groups, ask the students to prepare a questionnaire or questionnaire items that can be used to measure people's point of views about the issue. Procedure #5	
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Middle Grades 5-8 1. Examine the ways people form generalizations.	Evaluation #2 Why is it important that people understand that their own attitudes about wildlife come from their values and beliefs?	

Activity Title: PRO AND CON: CONSUMPTIVE AND NONCONSUMPTIVE USES OF WILDLIFE — Activity Guide Page #: 250

Objective(s): Students will: 1) identify examples of consumptive and nonconsumptive uses of wildlife; 2) describe reasons given for both consumptive and nonconsumptive uses of wildlife; and 3) evaluate their personal views about consumptive and nonconsumptive uses of wildlife.

Overview: Students research and debate the topic.

Subject Area(s): Language Arts, Social Studies, Science, Speech — Grade Level(s):7-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Secondary Grades 8. Engage in a debate, on a scientific issue, where both points of view are based on the same set of information.	Procedure #2 Ask the students to volunteer to represent one side or another on the following debate topic; "Wildlife should be used consumptively and non-consumptively." One team of students should research and prepare arguments in favor of one position, and one team should research and prepare arguments against that position.	
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Middle Grades 5-8 4. Describe an individual's biological and other impacts on an environmental system.	Evaluation #1 Name five examples of consumptive uses of wildlife and five examples of non-consumptive uses of wildlife.	

Activity Title: TOO CLOSE FOR COMFORT — Activity Guide Page #: 254

Objective(s): Students will: 1) describe possible negative consequences for people and wildlife under conditions of crowding; and 2) identify ways people can behave in order to reduce negative consequences of crowding for wildlife.

Overview: Students experiment with physical distance and levels of comfort in humans, estimate appropriate distances between humans and wildlife under various conditions, hypothesize about indicators of animal discomfort, and summarize reasons to avoid animal discomfort through crowding.

Subject Area(s): Science, Social Studies, Language Arts — Grade Level(s): K-7

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades Pre-K-2 5. Use various forms of simple logic.	Evaluation #3 Rank the following, from animals you could get closest to without harming to those you should stay the furthest away from: a heron rookery during breeding season, young raccoons seen in a forest, a large garter snake in the grass of your yard, honey bees around their hives, frogs in a freshwater pond in the summer.	
	Elementary Grades 3-4 6. Practice and apply simple logic, intuitive thinking, and brainstorming.	Evaluation #3	

Activity Title: SHRINKING HABITAT — Activity Guide Page #: 258

Objective(s): Students will: 1) describe some effects of human development of land area(s): on plants and animals previously living in the area; 2) evaluate the importance of suitable habitat for wildlife; and 3) recognize that loss of habitat is generally considered to be the most critical problem facing wildlife today.

Overview: Students simulate a process of land development in a physically involving activity.

Subject Area(s): Social Studies, Science — Grade Level(s): 4-7

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Secondary Grades 4. Analyze the impact of human and other activities on the type and pace of change in ecosystems.	Procedure #8	
	Elementary Grades 3-4 4. Investigate the connection between major living and nonliving components of a local ecosystem.	Procedure #8 Ask the students to summarize some of the possible impacts on wildlife from human activities like development of land areas. Are there places in your community where wildlife habitat has been lost by human development? Are there places where wildlife habitat has been enhanced by human activity? What choices, if any, are there to development of previously undeveloped areas? What trade-offs are involved; for example, in developing vacant areas within communities? If development does take place, what kinds of actions can people take to minimize the negative consequences for wildlife, vegetation and other elements of the environment? What about possible economic costs? Social costs? Ecological costs? Aesthetic costs, etc.? Discuss loss of habitat as something that is affecting wildlife all over the planet. Ask the students to summarize the importance of suitable habitat for wildlife.	
	Middle Grades 5-8 2. Analyze how the finite resources in an ecosystem limit the types and populations of organisms within it.	Procedure #8	

Activity Title: MIGRATION BARRIERS Activity Guide Page #: 26

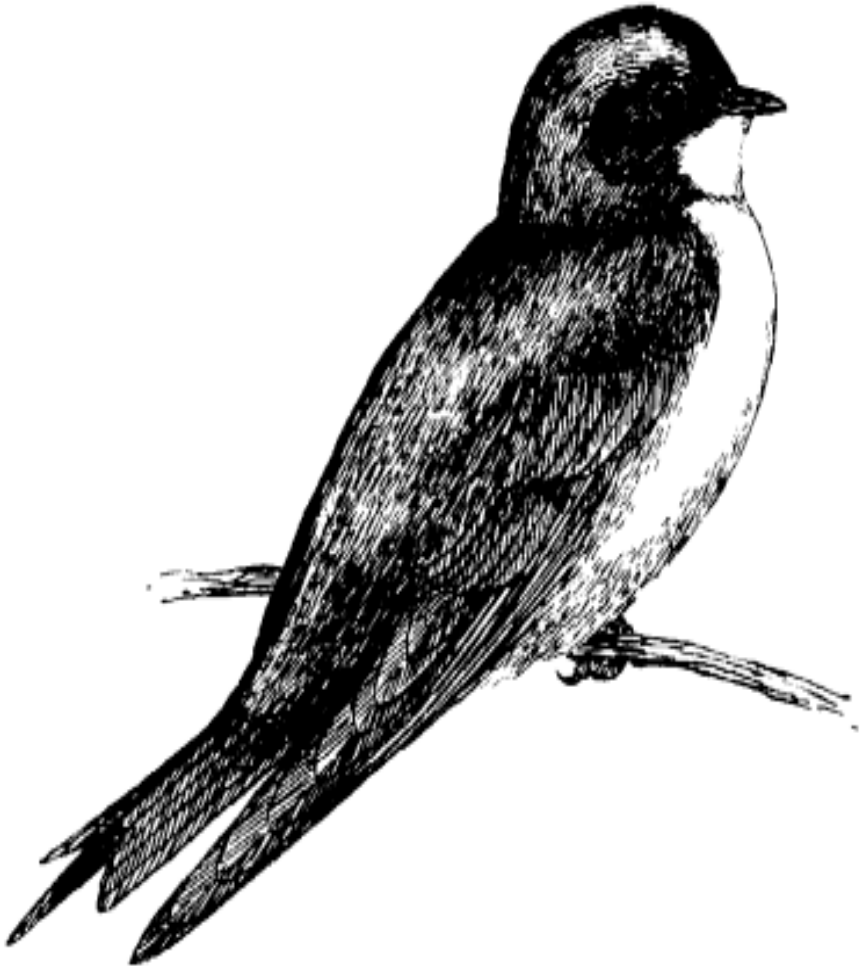
Objective(s): Students will: 1) define migration as it relates to wildlife; 2) describe possible impacts on wildlife migration patterns as a result of human activities; 3) give an example of the importance of land-use planning as it effects people, wildlife and the environment.

Overview: Students draw murals showing deer migration routes and the consequences of development of a highway through the area.

Subject Area(s): Social Studies, Science Grade Level(s): 4-6

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades 3-4 4. Make and/or use sketches, tables, graphs, physical representations, and manipulatives to explain procedures and ideas.	Procedure #2 Once the murals are complete, either ask the students to describe what they have included in their murals, pointing out the deer travel-way or, simply move on to the next step in this activity. The next step is to tell the students that a major highway has been proposed for the area they have drawn. . . Each group is attempting to plan for the land use in their area, represented by their mural. Ask each group to discuss how they could draw a highway on their mural in a way that they think would have the least possible negative consequences.	
	Middle Grades 5-8 4. Make and use scale drawings, maps, and three-dimensional models to represent real objects, find locations, and describe relationships.	Procedure #2	
	Secondary Grades 3. Make and use appropriate symbols, pictures, diagrams, scale drawings, and models to represent and simplify real-life situations and to solve problems.	Procedure #2	
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Middle Grades 5-8 1. Research and evaluate the social and environmental impacts of scientific and technological developments.	Procedure #2 How could the highway be built in a way that would do the least harm to the environment and its wildlife? They could consider impact to the environment during the actual road construction, ways to minimize runoff and erosion, replanting any areas where vegetation is destroyed in the building, and replanting with what kinds of plants. . .	

	Secondary Grades 2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.	Procedure #2	



Activity Title: CABIN CONFLICT — Activity Guide Page #: 264

Objective(s): Students will: 1) describe possible circumstances in which public and private interests may conflict in land-use issues; and 2) evaluate points of view which may arise under such circumstances.

Overview: Students participate in a role-playing activity.

Subject Area(s): Social Studies, Language Arts, Environmental Problems, Science — Grade Level(s): 7-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Middle Grades 5-8 8. Construct logical arguments.	Evaluation Pro or con: in some situations, it is appropriate for private land to be condemned for public use. Pick a position and support it.	
	Middle Grades 5-8 8. Construct logical arguments.	Procedure #5 Ask the students to discuss the results. What were the issued involved? What arguments support each side? Which arguments, if any, seem most persuasive? Which do not, and why?	
	Secondary Grades 6. Analyze situations where more than one logical conclusion can be drawn.	Procedure #4 After the testimony has been presented and opportunity fore rebuttal provided, the jury members should meet briefly to reach a decision. They should then return and report their decision to the entire class, explaining the reasons for their decision.	

Activity Title: TO ZONE OR NOT TO ZONE — Activity Guide Page #: 266

Objective(s): Students will: 1) identify social and ecological considerations where human uses of land conflict with each other and with wildlife habitats needs; and 2) describe the importance of land-use planning.

Overview: Students role-play a meeting of a county commission pertaining to a land-use issue.

Subject Area(s): Social Studies, Science, Environmental Problems, Language Arts, Speech — Grade Level(s): 6-9

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Middle Grades 5-8 8. Construct logical arguments.	Procedure #3 To set the stage for simulation, have each of the 15 participants read their personal data cards. Students should them be given homework time to prepare their presentations as members of the inquiry; or questions, letters to the editor and news stories as public observers.	• in preparing and presenting their role, students must make logical arguments in support of their position; each student should have a role
	Secondary Grades 1. Judge the accuracy of alternative explanations by identifying the evidence necessary to support them.	Procedure #4 The day of the hearing, the chairperson of the commission is to run the meeting. It is up to him or her to maintain order. After all those presenting prepared testimony have spoken and have been questioned – the reporters, researchers and concerned citizens will be asked to read their statements . . . After the testimony, questions and statements, the commissioners vote and give the reasons for their decisions.	• every student should reflect on the commissioners decisions, and have an opportunity to respond
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Middle Grades 5-8 1. Research and evaluate the social and environmental impacts of scientific and technological developments.	Procedure #6 Why are land-use decision making and land-use planning important for people wildlife and the environment?	• role cards and background information illustrate carious effects of a proposed housing development
	Secondary Grades 2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.	Procedure #6	

Activity Title: DEADLY LINKS			Activity Guide Page #: 270
Objective(s): Students will: 1) give examples of ways in which pesticides enter food chains; and 2) describe possible consequences of pesticides entering the food chains.			
Overview: Students become "hawks," "shrews," and "grasshoppers" in a highly involving physical activity.			
Subject Area(s): Social Studies, Science, Physical Education			Grade Level(s): 4-9
Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology B. Ecology Students will understand how living things depend on one another and on non-living aspects of the environment.	Elementary Grades 3-4 1. Describe a food web and the relationships within a given ecosystem.	Procedure #10 Talk with the students about what they just experienced in the activity. Ask them for their observations about how toxic substances can enter the food chain, with a variety of results.	
	Middle Grades 5-8 5. Describe various mechanisms found in the natural world for transporting living and non-living matter and the results of such movements.	Evaluation #3 A group of ecologists studied the presence of a toxic chemical in a lake. They found the water had one molecule of the chemical for every one billion molecules of water. This is called on part per billion (1 ppb). The algae had one part per million (1 ppm) of the toxic chemical. Small animals, called zooplankton, had 10 ppm. Small fish had 100 ppm. Large fish had 1,000 ppm. How do you explain this increase in this toxic chemical to 1,000 ppm for the large fish? Use a drawing to help support your answer. The ecologists found the chemical was a pesticide which had been sprayed on cropland 100 miles away from the lake. How did so much of it get into the lake?	

Activity Title: NO WATER OFF A DUCK'S BACK — Activity Guide Page #: 274

Objective(s): Students will: 1) identify ways oil spills can affect birds adversely; and 2) describe possible negative consequences to wildlife, people and the environment from human-caused pollutants.

Overview: Students conduct experiments using water, oil, hardboiled eggs, detergent, and feathers.

Subject Area(s): Science, Mathematics, Social Studies, Language Arts, Home Economics — Grade Level(s): 6-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Middle Grades 5-8 1. Make accurate observations using appropriate tools and units of measure.	Procedure #3 Examine a feather with a hand lens. Sketch what you see. Dip the feather in water for one or two minutes, and examine again with a hand lens. Sketch and compare to the original observations. Place the feather in oil for one or two minutes, and then examine with a hand lens, sketch, and compare with other sketches.	
	Secondary Grades 1. Make accurate observations using appropriate tools and units of measure.	Procedure #3	
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Secondary Grades 2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.	Evaluation #1 How could an oil spill affect the success of birds nesting near the water?	• teachers should emphasize human responsibility for negative consequences, and how to control human impacts

Activity Title: KEEPING SCORE — Activity Guide Page #: 276

Objective(s): Students will: 1) describe cause and effect relationships that help and hinder wildlife in their community; and 2) recommend changes in their community that could benefit wildlife.

Overview: Students investigate their neighborhoods for "cause and effect" relationships affecting wildlife; develop and use "community wildlife scorecards," and recommend actions to improve and/or maintain the quality of wildlife habitat in the community.

Subject Area(s): Science, Social Studies, Language Arts, Mathematics — Grade Level(s):4-8

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Elementary Grades 3-4 1. Make accurate observations using appropriate tools and units of measure.	Procedure #1 Ask the students to go home after school and look for "cause and effect" relationships in their neighborhood or community that seem to help or hurt wildlife – an some that seem not to affect wildlife at all. Procedure #2 What were some of the most surprising observations you made?	• student observations are the foundation of this activity; ensure that all students make their own observations
	Middle Grades 5-8 1. Make accurate observations using appropriate tools and units of measure.	Evaluation #2 Identify what seems to be the greatest short-term problem for wildlife in your community and the greatest long-term problem.	• students will need support in connecting observations with community problems
	Secondary Grades 1. Make accurate observations using appropriate tools and units of measure.	Procedures #1 and #2	• same as above
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades 3-4 3. Draw conclusions about observations.	Procedures #1 and #2	• same as above
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades 3-4 4. Make and/or use sketches, tables, graphs, physical representations, and manipulatives to explain procedures and ideas.	Procedure #5 Provide each student or team of students with a copy of the "Community Wildlife Scorecard."	• the "Community Wildlife Scorecard" serves as a table where students tally observation
	Secondary Grades 4. Employ graphs, tables, and maps in making arguments and drawing conclusions.	Procedure #5	• same as above

Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Secondary Grades 2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.	<u>Procedure #2</u> What, if any, problems affecting wildlife were identified? How do you know there are problems? If there are problems, are they apt to get better or worse in the Future? Are there any actions that can be taken by individuals and the community – to reduce or get rid of these problems?	

Activity Title: WHEN A WHALE IS A RIGHT — Activity Guide Page #: 280

Objective(s): Students will: 1) describe general characteristics and status of whales; 2) recognize that international alliances affect wildlife; and 3) evaluate the possible impact of wildlife issues on alliances and other relationships between and among nations.

Overview: Students hold a hypothetical meeting of the International Whaling Commission.

Subject Area(s): Social Studies, Language Arts, Environmental Problems, Science — Grade Level(s): 7-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Middle Grades 5-8 8. Construct logical arguments.	Procedure #3 After students have completed their research, set up the classroom to resemble a meeting hall. Hold a meeting of the IWC attended by scientific advisors and any guests, including other interest groups. Organize discussion and debate among the students, representing different interests, e.g., commercial interests, subsistence hunters, preservationists, animal welfare interests, conservation organizations.	• students must use logical arguments to support their positions
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Secondary Grades 8. Engage in a debate, on a scientific issue, where both points of view are based on the same set of information.	Procedure #3	

WILD Links/Science

Activity Title: PLANNING FOR PEOPLE AND WILDLIFE — Activity Guide Page #: 284

Objective(s): Students will: 1) describe considerations that are important in land-use planning for cities and other communities of people; 2) identify means by which negative impact on wildlife and other elements of the natural environment can be reduced in developing cities; and 3) describe actions that can be taken in some contemporary cities to enhance them as places in which both people and some wildlife can live.

Overview: Students imagine and research what the area in which they live was like before a community was developed; design planned communities; and build and evaluate models of their community designs.

Subject Area(s): Social Studies, Art, Science — Grade Level(s): 4-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Middle Grades 5-8 4. Make and use scale drawings, maps, and three-dimensional models to represent real objects, find locations, and describe relationships.	Procedure #6 Once their plans have been approved, provide the students with the necessary materials to build a model of their community.	
	Secondary Grades 4. Employ graphs, tables, and maps in making arguments and drawing conclusions.	Procedure #6	
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Middle Grades 5-8 1. Research and evaluate the social and environmental impacts of scientific and technological developments.	Evaluation #3 In most major cities, land-use planning has been non-existent, minimal or recent. Describe five methods that might be used to enhance the existence of a city's people and wildlife, with explanations of the methods you choose. (cities are major technological development)	
	Secondary Grades 2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.	Procedure #4 Tell each group that it is their task to develop a community in this natural area, given the background information the committee has provided. In designing their community, they should aim to develop a community in which people live and work with the least possible negative impact on the existing vegetation, air quality, water, soil, and wildlife, at the same time that the needs of the people are met as well.	

Activity Title: ETHI-THINKING Activity Guide Page #: 290

Objective(s): Students will: 1) generate a list of activities done outside that are harmful to wildlife and the environment; 2) discuss reasons these activities are inappropriate; and 3) recommend alternative activities that are not harmful.

Overview: Students list activities that might be harmful to wild plants and animals and use photos or drawings to picture, discuss, interpret and evaluate these activities.

Subject Area(s): Social Studies, Science, Art, Language Arts Grade Level(s): K-8

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Elementary Grades Pre-K-2 4. Participate in brainstorming activities.	Procedure #1 Ask students to help you make a list of activities people do that seem harmful to wild plants and animals.	
	Elementary Grades 3-4 6. Practice and apply simple logic, intuitive thinking, and brainstorming.	Procedure #1	
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Elementary Grades Pre-K-2 4. Demonstrate some practices for recycling and care of resources.	Evaluation #1 Make a list of five things which people do that harm wildlife. Evaluation #3 For each thing listed, describe what you can do about it.	
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Middle Grades 5-8 4. Describe an individual's biological and other impacts on an environmental system.	Evaluations #1 and # 3	

Activity Title: PLAYING LIGHTLY ON THE EARTH — Activity Guide Page #: 292

Objective(s): Students will: 1) distinguish between games that are damaging and not damaging to the environment; and 2) invent games with a benign effect on the environment.

Overview: Students look for evidence of games that harm the environment; and then invent and play games with a benign effect on the environment.

Subject Area(s): Social Studies, Physical Education, Science — Grade Level(s): K-8

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Elementary Grades Pre-K-2 4. Demonstrate some practices for recycling and care of resources.	Procedure #4 Ask the students to work together in small groups – from two to seven or eight – to invent a game that does no serious harm to the environment, including the plants and animals living there. The students could also try to invent games that could make this a better environment in some ways.	
	Middle Grades 5-8 4. Describe an individual's biological and other impacts on an environmental system.	Procedure #2 Go outside on the school grounds and look for evidence of games that have damaged the environment. Ask students what could have caused the damage and how it might have been prevented.	

Activity Title: NOISY NEIGHBORS — Activity Guide Page #: 294

Objective(s): Students will: 1) identify noise levels which can adversely affect people, domesticated animals and wildlife; and 2) recommend ways in which people can change some behaviors in order to reduce negative impacts from noise for people, domesticated animals and wildlife.

Overview: Students conduct an investigation of noise levels in their community, generate and test hypotheses, and make recommendations.

Subject Area(s): Social Studies, Environmental Problems, Science, Health — Grade Level(s): 7-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Middle Grades 5-8 1. Make accurate observations using appropriate tools and units of measure.	Procedure #3 With this information about allowable and recommended noise levels, students can do a "sound search" of the community. If possible, get a decibel meter from a community agency to record decibel levels: around the school, shopping center, residential area, agricultural area, city park, entrance to national park or forest, etc. Look to see if there is any correlation between noise levels and numbers of people, domesticated animals and wildlife. . .	• PARTIAL ALIGNMENT: without decibel meter • COMPLETE ALIGNMENT: with decibel meter
	Secondary Grades 1. Make accurate observations using appropriate tools and units of measure.	Procedure #3	• same as above
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Middle Grades 5-8 4. Describe an individual's biological and other impacts on an environmental system.	Evaluation #3 Explain three things that could be done to reduce noise by people who are using wildlife habitats. What are you going to do personally to reduce the negative effects form noise on people, domesticated animals or wildlife?	
	Secondary Grades 2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.	Evaluation #3	

Activity Title: RARE BIRD EGGS FOR SALE — Activity Guide Page #: 296

Objective(s): Students will: 1) identify reasons for and consequences of collecting wildlife and wildlife products; and 2) suggest and evaluate alternatives to collection to satisfy collection needs

Overview: Students participate in a debate.

Subject Area(s): Language Arts, Social Studies Environmental Problems, Science — Grade Level(s): 7-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Middle Grades 5-8 8. Construct logical arguments.	Procedure #3 Ask the students to divide into two working groups: one to speak for the reasons that collecting such things should be allowed, and one to speak for the reasons that collecting of such things should not be allowed. After dividing within each team to research aspects of the topic, each team should organize its information for presentation in a debate format.	• preparing "information for presentation in a debate" requires that students construct logical arguments
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Middle Grades 5-8 6. Identify and perform roles necessary to accomplish group tasks.	Procedure #3 (continued from above) Each team can have a principal spokesperson or captain who makes opening, transition and summary statements. That team captain can call on members of the team to provide specific information about pertinent topics as they arise during the debate.	• all team members must be prepared to perform their role
	Secondary Grades 8. Engage in a debate, on a scientific issue, where both points of view are based on the same set of information.	Procedure #3	

Activity Title: WHAT YOU WEAR IS WHAT THEY WERE — Activity Guide Page #: 300

Objective(s): Students will: 1) identify principle resources from which their clothing is made; 2) distinguish between renewable and non-renewable natural resources; and 3) recognize environmental consequences of clothing preferences.

Overview: Students draw, label and analyze their clothing according to the natural resources from which they are derived; and make personal judgements about appropriate uses of such natural resources based on criteria which they established.

Subject Area(s): Social Studies, Science, Home Economics — Grade Level(s): 7-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Middle Grades 5-8 4. Describe an individual's biological and other impacts on an environmental system.	Procedure #5 What kinds of impact do our preferences in clothing sources have on different aspects of the cultural and natural environments, e.g., on local economies, international trade, cultural tradition, global resources, wildlife, wildlife habitat, agricultural lands, water quality, oil shale development?	

Activity Title: WATER'S GOING ON?! Activity Guide Page #: 304

Objective(s): Students will: 1) record and interpret how much water they use in a day at school; and 2) make recommendations as to how they can save a significant percentage of that water.

Overview: Students estimate and calculate water use in school and then design and try ways to conserve water.

Subject Area(s): Math, Social Studies, Science, Home Economics Grade Level(s): 5-9

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology J. Inquiry and Problem Solving Students will apply inquiry and problem-solving approaches in science and technology.	Middle Grades 5-8 2. Design and conduct scientific investigations which include controlled experiments and systematic observations.	Procedure #2 Ask the students to monitor their use of water for a day. They can time their drinks of water and record them in a notebook. Ask them to do the same for hand washing. They should also record the number of times they use the restrooms, etc. Procedure #3 As a class, calculate the amount of water used; e.g., run water from the fountain to a container for ten seconds and see how much water was used. Use this amount to calculate the amount per each drink that the students have recorded in seconds. Do the same for the sink faucets. Multiply a standard average of three gallons used per flush by the number of trips to the restroom. Have each student come up with an individual number of gallons used per day.	• all students must use the same criteria for monitoring water use
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Middle Grades 5-8 4. Describe an individual's biological and other impacts on an environmental system.	Evaluation #2 What activity of yours require the most water per year? Evaluation #3 Describe and explain three ways you can decrease your use of water.	
	Secondary Grades 2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.	Evaluation #4 Describe and evaluate the seriousness of water problems you can identify which affect people and wildlife, now, and in the future.	

WILD Links/Science

Activity Title: WHAT DID YOUR LUNCH COST WILDLIFE? Activity Guide Page #: 306

Objective(s): Students will: 1) trace some foods from their source to the consumer; 2) identify the impact those foods and their processing have on wildlife and the environment in general; and 3) recommend, with explanations, some food habits that could benefit wildlife and the rest of the environment.

Overview: Students trace food sources, diagram environmental impacts, and apply the knowledge they gain by making changes in some of their consumer choices.

Subject Area(s): Social Studies, Language Arts, Science, Home Economics, Vocational Agriculture Grade Level(s): 4-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades 3-4 4. Make and/or use sketches, tables, graphs, physical representations, and manipulatives to explain procedures and ideas.	Procedure #4 Next ask students to add drawings of possible and likely impacts to wildlife and the environment along the path their food took to get to them.	
	Middle Grades 5-8 4. Make and use scale drawings, maps, and three-dimensional models to represent real objects, find locations, and describe relationships.	Procedure #4	
	Secondary Grades 3. Make and use appropriate symbols, pictures, diagrams, scale drawings, and models to represent and simplify real-life situations and to solve problems.	Procedure #4 Procedure #3 Ask the students to make simple flow diagrams of the path the food takes.	
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Middle Grades 5-8 4. Describe an individual's biological and other impacts on an environmental system.	Procedure #7 Ask each student to think of one change he or she could make in his or her own lunch-time eating habits that would be likely to have a beneficial – or at least, less harmful – effect on wildlife and the environment.	

WILD Links/Science

Activity Title: FLIP THE SWITCH FOR WILDLIFE — Activity Guide Page #: 308

Objective(s): Students will: 1) trace the route of electrical energy from source to use; 2) describe impacts on wildlife and the environment derived from various kinds of energy development and uses; and 3) evaluate the impact on wildlife and the environment as a result of their own energy-use practices.

Overview: Students illustrate the route of energy from its sources to human use, including environmental impacts along its path, and then invent and try ways to make beneficial impacts on wildlife through their personal energy-use practices.

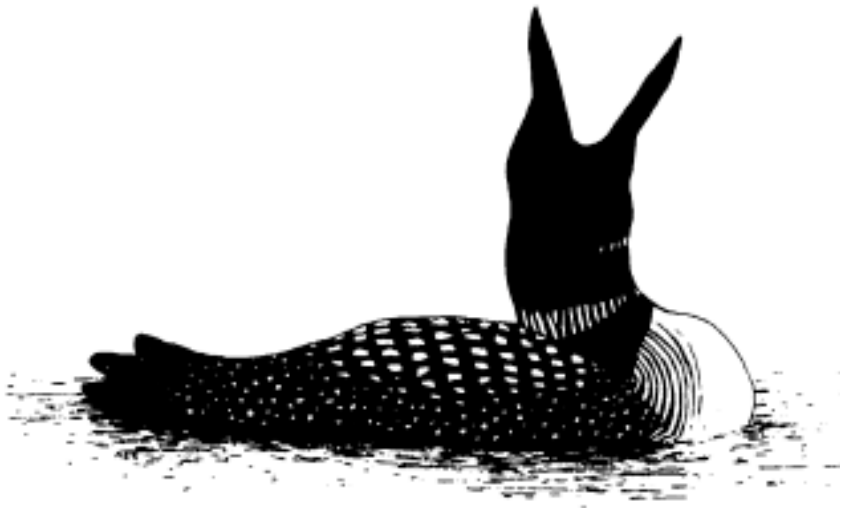
Subject Area(s): Science, Social Studies, Language Arts — Grade Level(s): 5-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology H. Energy Students will understand concepts of energy.	Middle Grades 5-8 1. Analyze the benefits and drawbacks of energy conversions (e.g., in electricity generation).	Procedure #3 Which type of fuel source do you think would have the greatest negative impact on wildlife? Which the least? Why? Which the greatest positive impact on wildlife? Why?	
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Middle Grades 5-8 4. Make and use scale drawings, maps, and three-dimensional models to represent real objects, find locations, and describe relationships.	Procedure #2 Ask the students within each group to draw and label their "power pathway" on a large sheet of paper. For example, coal would travel from the strip mine or tunnel by truck to the processing plant, then by train to the power plant, over the electric power lines to their house and their light switch. Have the students label points along the way where wildlife could be positively or negatively affected.	
	Secondary Grades 3. Make and use appropriate symbols, pictures, diagrams, scale drawings, and models to represent and simplify real-life situations and to solve problems.	Procedure #2	
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Middle Grades 5-8 1. Research and evaluate the social and environmental impacts of scientific and technological developments.	Evaluation #2 Describe two ways that wildlife and/or habitat might be affected by each of the following electric energy development and uses: hydroelectric dam, nuclear plant, coal generating plant, oil generating plant, wind generating plant, tidal generating plant, active or passive solar facility.	
	Middle Grades 5-8 4. Describe an individual's biological and other impacts on an environmental system.	Procedure #4 Ask each student to think of at least one constructive thing to do for wildlife that involves energy and its uses – and do it!	

	Secondary Grades 2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.	Evaluation #2	

Activity Title: ETHI-REASONING			Activity Guide Page #: 310
Objective(s): Students will: 1) examine their own values and beliefs related to wildlife and other elements of the environment; 2) listen to and respect the rights of others to maintain different values and beliefs; and 3) evaluate possible actions they might take that have impact on wildlife and the environment.			
Overview: Students read, discuss, make judgments and write about hypothetical dilemmas concerning wildlife and/or natural resources.			
Subject Area(s): Social Studies, Science, Language Arts			Grade Level(s): 5-12
Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology K. Scientific Reasoning Students will learn to formulate and justify ideas and to make informed decisions.	Middle Grades 5-8 8. Construct logical arguments.	Procedure #3 The first student draws a card from the top of the stack. The student studies the situation, decides what he or she should do, and formulates his or her reasons.	
	Secondary Grades 6. Analyze situations where more than one logical conclusion can be drawn.	Procedure #4 The student reads the situation and the options aloud to the rest of the group. The student gives the decision he or she has chosen and describes the reasoning involved. Each of the other members of the group is invited to comment on the dilemma and what he or she would do in the situation. . . . The person whose dilemma is being discussed should have the opportunity to ask questions of the other members of the group and to offer clarification about his or her decision. . . The purpose is to provide students with an opportunity to examine, express, clarify and take responsibility for their own reasoning.	

Activity Title: WILD BILL'S FATE			Activity Guide Page #: 316
Objective(s): Students will: 1) identify sources of information concerning legislation affecting wildlife; and 2) compare differing social and political viewpoints concerning legislation.			
Overview: Students investigate pending legislation affecting wildlife.			
Subject Area(s): Social Studies (Government), English, Environmental Problems			Grade Level(s): 7-12
Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Secondary Grades 1. Examine the impact of political decisions on science and technology.	Evaluation #1 Identify one bill which has been introduced into your state legislature that will affect wildlife. Describe it. Explain its major purpose. Offer and support your opinion as to whether this bill should be passed.	



Activity Title: KNOW YOUR LEGISLATION: WHAT'S IN IT FOR WILDLIFE? Activity Guide Page #: 318

Objective(s): Students will: 1) describe the legislative process in which a bill becomes law; 2) identify points at which private citizens can have an impact on the legislative process; and 3) evaluate the effectiveness of the legislative process from the perspective of their personal experience

Overview: Students actively participate in the legislative process.

Subject Area(s): Social Studies (Government, Civics), Science, Environmental Problems, Language Arts Grade Level(s): 7-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Middle Grades 5-8 6. Identify and perform roles necessary to accomplish group tasks.	<u>Procedure Day 3 and On</u> D: student "Eagle-Eye" E: student "Reach-Outs" F: student "Zero-In" G: student "Watchdog"	• D-G represents specific roles that students perform within a group
	Secondary Grades 3. Make and use appropriate symbols, pictures, diagrams, scale drawings, and models to represent and simplify real-life situations and to solve problems.	<u>Procedure #4</u> D: student "Eagle-Eye" Keep a flow chart on the progress of the bill.	• discuss and observe progress on the flow chart as a whole class
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Secondary Grades 1. Examine the impact of political decisions on science and technology.	<u>Evaluation #4</u> What impact does the legislative process have on people's perceptions and actions affecting wildlife and its habitat? Based on your experience, what suggestions, if any, would you like to make to improve the effectiveness of the legislative process? What are its strongest, most valuable features? What are its weakest, most negative features? What is your assessment of its overall importance?	

Activity Title: CAN DO! Activity Guide Page #: 322

Objective(s): Students will: 1) identify a problem involving wildlife on their own school grounds; 2) suggest and evaluate alternative means by which to either solve the problem or at least improve the situation; 3) successfully undertake the project; and 4) analyze and describe the process by which they successfully solved the problem or improved the situation.

Overview: Students select a school environmental project; conduct research; make plans; and follow procedures to accomplish the project.

Subject Area(s): Social Studies, Language Arts, Science Grade Level(s): 2-9

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades Pre-K-2 3. Ask clarifying questions.	Procedure #4 Ask the students to present their plans to the rest of the students. Students may ask questions for clarification.	• at this level, teachers must direct students in asking appropriate, meaningful questions
	Elementary Grades 3-4 2. Ask clarifying and extending questions.	Procedure #4	
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Elementary Grades Pre-K-2 4. Demonstrate some practices for recycling and care of resources.	Procedure #1 Ask the students to think of some ways in which they could improve areas of the school grounds as a home for wildlife. They might generate a list of activities on their school grounds that have a negative impact on wildlife. . .	

Activity Title: IMPROVING WILDLIFE HABITAT IN THE COMMUNITY — Activity Guide Page #: 324

Objective(s): Students will: 1) apply their knowledge of wildlife by describing essential components of habitat in an arrangement appropriate for the wildlife they identify; and 2) evaluate compatible and incompatible uses of an area by people and specified kinds of wildlife.

Overview: Students design and accomplish a project to improve wildlife habitat in their community.

Subject Area(s): Science, Social Studies, Art, Mathematics, Language Arts — Grade Level(s): 4-12

Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology L. Communication Students will communicate effectively in the application of science and technology.	Elementary Grades 3-4 4. Make and/or use sketches, tables, graphs, physical representations, and manipulatives to explain procedures and ideas.	Procedure #3 Ask each of the groups to prepare the following: a) a written description of their habitat improvement project, and b) a map or model to scale of the area. The map or model can include; habitat components for various species, wildlife living in the area, in their appropriate locations, bodies of water, natural or made by people, major areas of vegetation and a key to type, major . . .	
	Middle Grades 5-8 4. Make and use scale drawings, maps, and three-dimensional models to represent real objects, find locations, and describe relationships.	Procedure #3	
	Secondary Grades 3. Make and use appropriate symbols, pictures, diagrams, scale drawings, and models to represent and simplify real-life situations and to solve problems.	Procedure #3	
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Secondary Grades 2. Demonstrate the importance of resource management, controlling environmental impacts, and maintaining natural ecosystems.	Evaluation #2 Draw a picture or design a blueprint of a community in which people have taken actions to improve the environment for both people and wildlife. Explain some of the features of the plan. Compare similarities and differences between the plan and the characteristics of your own community.	

Activity Title: ENVIRO-ETHICS			Activity Guide Page #: 326
Objective(s): Students will: 1) distinguish between actions that are harmful and beneficial to the environment; and 2) evaluate the appropriateness and feasibility of making changes in their own behaviors related to the environment.			
Overview: Students develop and use a "Personal Code of Environmental Ethics."			
Subject Area(s): Language Arts, Social Studies, Science, Home Economics			Grade Level(s): 6-12
Standard	**Performance Indicator (by grade clusters)**	**Evidence of alignment (text from activity description)**	**Notes to assure high alignment for every student**
Science and Technology M. Implications of Science and Technology Students will understand the historical, social, economic, environmental, and ethical implications of science and technology.	Middle Grades 5-8 4. Describe an individual's biological and other impacts on an environmental system.	<u>Procedure #4</u> Have the students brainstorm a list of the daily impacts each of us has on the environment.	